BUREAU OF LAND MANAGEMENT
SOUTHEASTERN STATES FIELD OFFICE
411 Briarwood Drive, Suite 404
Jackson, Mississippi 39206

ENVIRONMENTAL ASSESSMENT (EA) FORM

ES-020-2013-17

PROJECT NAME: Reed 10-14 #7-5H8 and #8-5H8 APD EA

TECHNICAL REVIEW:

X	Program	Reviewer	Signature	Date
	Lands/Realty			
X	Environmental Justice	Brian Kennedy Physical Scientist	Brian Kennedy	5/10/13
	Wild Horse & Burro			
	Communications (Dispatch)			
X	Cultural/Paleontology	John Sullivan Archeologist	Brian Kennedy (For)	5/10/13
X	Native American Religious Concerns	John Sullivan Archeologist	Brian Kennedy (For)	5/10/13
	Wilderness			
	Farmlands (Prime & Unique)			
X	Recreation	Brian Kennedy Physical Scientist	Brian Kennedy	5/10/13
X	Visual Resources	Brian Kennedy Physical Scientist	Brian Kennedy	5/10/13
	Operations			
	Fire Management			
	Range Management			
	Law Enforcement			
	Land Law Examiner			
X	Energy Policy	Brian Kennedy Physical Scientist	Brian Kennedy	5/10/13
X	Minerals	Brian Kennedy Physical Scientist	Brian Kennedy	5/10/13
	ACEC			
X	Surface Protection	Brian Kennedy Physical Scientist	Brian Kennedy	5/10/13
X	Hazardous Material	Brian Kennedy Physical Scientist	Brian Kennedy	5/10/13

X	Soils	Brian Kennedy Physical Scientist	Brian Kennedy	5/10/13
X	Air Quality	Brian Kennedy Physical Scientist	Brian Kennedy	5/10/13
X	Water Quality (Surface & Ground)	Brian Kennedy Physical Scientist	Brian Kennedy	5/10/13
	Water Rights			
X	Floodplain	Brian Kennedy Physical Scientist	Brian Kennedy	5/10/13
X	Wetlands/Riparian Zones	Brian Kennedy Physical Scientist	Brian Kennedy	5/10/13
	Wild & Scenic Rivers			
X	Invasive & Non-Native Spp.	Alison McCartney Natural Resource Specialist	Alison McCartney	5/3/13
X	Wildlife/Botanical Spp.	Alison McCartney Natural Resource Specialist	Alison McCartney	5/3/13
X	T&E Wildlife/Botanical Spp.	Faye Winters Wildlife Biologist	Faye Winters	5/10/13

Prepared by: Brian Kennedy Date: 5/10/13
Brian Kennedy
Physical Scientist

Reviewed by: Gary Taylor Date: 5/13/13
Gary Taylor
NEPA Coordinator

Reviewed by: Duane Winters Date: 5/10/13
Duane Winters
Resource Supervisor

Reviewed by: Randall Mills ACTING AFM Date: 5/13/13
Randall Mills
Minerals Supervisor

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Environmental Assessment
EA-020-2013-17

Reed 10-14 #7-5H8 and #8-5H8 APD EA

Prepared by: Brian Kennedy, Physical Scientist

Date: May 1, 2013

CH 1 – PURPOSE OF AND NEED FOR THE PROPOSED ACTION

Introduction

On December 12, 2012, SEECO, Inc. submitted two Applications for Permit to Drill (APD) for the proposed: Reed 10-14 #7-5H8 and #8-5H8 natural gas wells to the Bureau of Land Management (BLM), Southeastern States Field Office (SSFO). Both wells are on the same well pad. The well locations are approximately 4 miles west of the community named Choctaw, Arkansas and located 1/10 of a mile south off of East Bowling Road. Both APDs were submitted in accordance with Onshore Oil and Gas Order No. 1 (43 CFR 3164), administered by the BLM. The well site for both APDs is located on private property. The wells, if approved, will drill into federally owned and leased oil and gas mineral rights. The leasing and development of federal oil and gas minerals is authorized by several statutes including: The Mineral Leasing Act, as amended and supplemented (30 U.S.C. 181), and The Mineral Leasing Act for Acquired Lands, as amended (30 U.S.C. 351-359).

Need for the Proposed Action

An APD is a proposed action under BLM jurisdiction requiring federal approval for a permit to drill and as such must be reviewed for compliance with various statutes, laws and regulations including the National Environmental Policy Act of 1969 (NEPA).

A federal oil and gas lease is a legal contract that grants exclusive rights to the lessee to drill for and remove all oil and gas from the lease with the right to build and maintain necessary improvements. The subject lease was issued by the BLM following a decision by the Authorized Officer to allow leasing of the oil and gas rights on the property. The leasing decision and leasing action represent a commitment to allow exploration and development of potential oil and gas resources on the property. Hence, the drilling activity on the lease constitutes a valid lease right and is needed in order to fulfill the purpose and intent of the lease.

SEECO, Inc. submitted two APDs in accordance to Onshore Order #1 as directed by BLM for the development of oil and gas resources under BLM jurisdiction. BLM's responsibility is to review such applications in accordance with federal and state laws, policies, and regulations so that oil and gas resources can be developed in a way that is beneficial to the American public as well as ensure the U.S. Government's interests are not being drained and/or trespassed on oil and gas activity.

Management Objectives of the Action

The desired outcome of the proposed action is the approval of SEECO, Inc.'s two APDs for the extraction of natural gas submitted to BLM. Approval of the APDs from SEECO, Inc. would allow the continued extraction and production of federally owned natural gas. Not approving these natural gas wells would stop the development of federal minerals in this area and create a loss of royalties to the federal government.

Land Use Plan Conformance

This area is not covered by a BLM Resource Management Plan. According the regulations at 43 CFR 1610.8 (b) (1), however, this environmental assessment can be used as a basis for making a decision on the proposal.

Applicable Regulatory Requirements and Required Coordination

Applicable Regulatory Requirements and Required Coordination include: The Mineral Leasing Act, as amended and supplemented (30 U.S.C. 181), The Mineral Leasing Act of 1947, as amended (30 U.S.C. 351-359), Leasing Reform Act of 1987, 43 CFR 3162.3, 43 CFR 3162.5, Onshore Oil & Gas Order No. 1, Energy Policy Act of 2005, National Environmental Policy Act, 1969 (NEPA), Arkansas Department of Environmental Quality (AR DEQ), The National Historic Preservation Act, The American Indian Religious Freedom Act, The Native American Graves Protection and Repatriation Act, E.O. 13007, and/or other statutes and executive orders.

The following agencies/tribes were contacted for cultural compliance under Section 106:

- Quapaw Tribe of Oklahoma
- Osage Nation
- Choctaw Nation of Oklahoma
- Chickasaw Nation
- Cherokee Nation of Oklahoma
- United Keetoowah Band of Cherokee Indians in Oklahoma
- Seminole Nation of Oklahoma
- Muscogee (Creek) Nation of Oklahoma
- Thlopthlocco Tribal Town
- Caddo Indian Tribe of Oklahoma
- Tunica-Biloxi Tribe of Louisiana
- Alabama-Quassarte Tribal Town
- Arkansas Historic Preservation Program (AHPP), State Historic Preservation Officer

Consultation completed by BLM staff:

- Arkansas Historic Preservation Program (AHPP), State Historic Preservation Officer

The following BLM employees attended an onsite visit in January 11, 2013:

(1) John Sullivan, SSFO Archeologist
(2) Brian Kennedy, SSFO Physical Scientist

Decision(s) That Must Be Made

The Bureau of Land Management (BLM) has two decisions under consideration for the proposed action of approving the two APDs submitted by SEECO, Inc. The "Proposed Action" and the "No Action" options are considered the only two reasonable alternatives under decision by BLM. No issues were raised during the scoping process and/or onsite inspection that would suggest or identify other alternatives for consideration. The No Action alternative is considered and analyzed to provide a baseline for comparison of the impacts of the proposed action.

First and preferred decision for consideration is the approval of both APDs which are co-located on one well pad location in Van Buren County, Arkansas submitted by SEECO, Inc. The preferred decision would allow the drilling of two natural gas wells to protect federal mineral interests from being drained from nearby oil and gas production. Approving the APDs would give SEECO, Inc. the permission to begin developing the federal minerals of ARES-56356 in return the U.S. Government would be paid royalties for those minerals developed. The no action or second decision to consider would be to disapprove both APD submitted by SEECO, Inc. If the second decision was proven to be the appropriate and best course of action by BLM, the proposed well site for the APDs submitted would not be recommended by BLM to SEECO, Inc. for development or any future submittal of APDs for that location. Royalties would not be collected and drainage of federal minerals would continue take place from the neighboring private leases. This EA will discuss and review all SSFO NEPA elements taken under consideration to provide management with the best decision appropriate for all proposed actions. BLM's policy is to promote oil and gas development as long as it meets the guidelines and regulations set forth by the National Environmental Policy Act of 1969 as other subsequent laws and policies passed by the U.S. Congress.

CH 2 – ALTERNATIVES INCLUDING THE PROPOSED ACTION

Introduction

BLM will review the APDs submitted by SEECO, Inc. for the Reed 10-14 #7-5H8 and #8-5H8 wells. The APDs are both proposed natural gas wells. The well site where both APDs are located is on private property in Van Buren County, Arkansas approximately 4 miles west of Choctaw, Arkansas.

APD Location

Reed 10-14 #7-5H8 - 2315' FSL and 553' FWL in Section 5, T. 10 N., R. 14 W.; 5th Principal Meridian, Van Buren County, Arkansas

Reed 10-14 #8-5H8 - 2295' FSL and 554' FWL in Section 5, T. 10 N., R. 14 W.; 5th Principal Meridian, Van Buren County, Arkansas

Proposed Action (Preferred Option)

The proposed action is to approve the well pad location for both APDs submitted by SEECO, Inc. with approximately 3.97 acres of total surface disturbance for construction of a well pad, reserve pit, and access road. SEECO, Inc. provided plats detailing both well pad designs and area of coverage for the proposed APDs. The proposed federal wells will be drilled horizontally for gas development. Drilling plans for the wells were submitted with the APDs and will be reviewed by BLM as part of the approval process.

Construction

The specific plans for construction of the site are included in the Surface Use Program (SUP) of the APD. The SUP is incorporated by reference into this EA, is maintained in the appropriate well file at the BLM, Southeastern States Field Office, and is available for review.

Both proposed APDs are located on the same well pad which utilizes a square-shaped well pad (270' X 410') approximately 2.54 acres of disturbance in size. The well pad area will be leveled for support of a drilling rig. A reserve pit will be constructed on the west side of the well pad for discharge of the drilling cuttings/fluids. The reserve pit is 200' X 300' and approximately 1.38 acres of disturbance. The reserve pit is mainly for cuttings due to the use of a "closed-loop" system. The access road right-of-way (ROW) dimensions are 20' X 100' being approximately 0.05 acres in disturbance on private land across a pasture used for cattle. The pad's elevation is at ± 1019.5'. Other design features are included in the SUP.

Drilling

The specific plans for drilling operations are included in the Drilling Programs (DP) of each APD submitted by SEECO, Inc. This program is incorporated by reference into this EA. The DP is maintained in the well file at the BLM, Southeastern States Field Office and is available for review. Both wells will be drilled to a depth of approximately 2,900 feet total volume depth (TVD). The casing and cementing program for each APD was submitted and reviewed by BLM and, if necessary, will be modified to meet BLM standards, if an issue of safety or integrity is found. BLM regulations require that the operator isolate freshwater-bearing strata and other usable safe drinking water formations containing 10,000 ppm or less of dissolved solids, and other mineral-bearing formations, and protect them from contamination (43 CFR 3162.5-2d). Surface casing would be placed below surface and cemented back to the surface to protect usable safe drinking water. The circulated mud and drilling fluids will be contained onsite in tanks due to operator using a closed-loop system. Cuttings will be discharged into a reserve pit. No water will be used from the private landowner's property in conjunction with drilling operations for either well. SEECO, Inc. has an agreement with the private landowner to transport by truck material and fluids needed in their operations across their property.

The blowout prevention program has been reviewed by BLM for assurance that, in the event of a blowout, each well can be controlled. SEECO, Inc. provided BLM the details of the well's production casing in the APD. The production casing of each well is in accordance with BLM regulations/standards. Other design features pertaining to drilling are included in the DP.

Production Facilities

Each well when completed will result in natural gas production. Production equipment will be put in place located on the well pad site for both wells. Production and gathering lines are detailed in the facility diagram which is part of each APD and DP submitted. Lines leaving the well pad will be laid in the well site's road right-of-way (ROW) established by the private landowner. Any new facilities or lines, SEECO, Inc. will have to submit them to BLM for approval by a Sundry Notice. Any new surface disturbance is subject to NEPA review. Any production facilities will be reviewed by BLM as part of the APD approval process to ensure proper construction, usage, and management.

Reclamation

The reclamation plan applies to all disturbed areas following a dry hole or abandonment of any well and to all areas not needed for production of that producing well. A well will be plugged after completion and no limbs, trees, or tops will be placed in the reserve pit. Other aspects of the project relative to reclamation are addressed in the SUCOA submitted by BLM. Upon final abandonment and reclamation, BLM will inspect the plugging operations completed by SEECO, Inc. and inspect final reclamation of the site to ensure it has met BLM reclamation standards. Well site is located on private surface and a surface use agreement (SUA) is in place between the private landowner and SEECO, Inc. BLM will respect the private landowner's wishes of surface use in the SUA. If private landowner has no plans for final reclamation, BLM will propose that SEECO, Inc. restore the well site to conditions prior to well construction for final reclamation

approval. Plugging and reclamation stages are subject to BLM's approval before well site can be released from SEECO, Inc.'s responsibility and liability.

No Action

The only other alternative to the two decisions being considered by BLM is "No Action". The "No Action" decision's result would be to not authorize the two proposed APDs submitted by SEECO, Inc. to BLM. No revenues would be obtained by this action and potential drainage from private wells neighboring the federal lease could occur. The "No Action" alternative would potentially jeopardize BLM's policy to promote oil and gas development as long as it meets the guidelines and regulations set forth by the National Environmental Policy Act of 1969 and other subsequent laws and policies passed by the U.S. Congress.

CH. 3 – DESCRIPTION OF THE AFFECTED ENVIRONMENT

Introduction

Based on review of the elements listed on the SSFO NEPA Form and consideration of the Purpose and Need statement prepared for this EA, the following elements will be addressed in this EA: Environmental Justice, Cultural/Paleontology, Native American Religious Concerns, Recreation, Visual Resources, Minerals, Energy Policy, Surface Protection, Hazardous Material, Soils, Air Quality, Floodplain, Water Quality, Wetlands/Riparian Zones, Invasive & Non-Native Spp., Wildlife/Botanical Spp., and T&E Wildlife/Botanical Spp.

Description of Project Area

This area is situated in the Arkansas Valley Eco-region in Northern Arkansas. The Arkansas Valley Eco-region is a synclinal and alluvial valley lying between the Ozark Highlands and the Ouachita Mountains. The Arkansas Valley is, characteristically, diverse and transitional. It generally coincides with the Arkoma Basin that developed as sand and mud were deposited in a depression north of the rising Ouachita Mountains during the Mississippian and Pennsylvanian eras. The Arkansas Valley contains plains, hills, floodplains, terraces, and scattered mountains. It is largely underlain by inter-bedded Pennsylvanian sandstone, shale, and siltstone. Prior to the 19th century, uplands were dominated by a mix of forest, woodland, savanna, and prairie whereas floodplains and lower terraces were covered by bottomland deciduous forest. Today, less rugged upland areas have been cleared for pastureland or "hayland" (land used for the production of hay). Poultry and livestock farming are important land uses.

The proposed wells are located on private property utilized for cattle farming. Location is flat to rolling hill pasture. Well site will involve the removal of a small, man-made pond that the land owner prefers for the wells to be placed.

Environmental Justice

Title IV of the Civil Rights Act of 1964 and related statutes ensure that individuals are not excluded from participation in, denied the benefit of, or subjected to discrimination under any program or activity receiving federal assistance on the basis of race, color, national origin, age, sex, or disability. Executive Order 12898 on Environmental Justice directs that programs, policies, and activities not have a disproportionately high and adverse human health and environmental effect on minority and low-income populations.

Cultural Resources

An archaeological survey has been conducted of the well pad area by Panamerican Consultants, Inc. No cultural resources had been previously recorded for this location. No evidence of either historical, archeological or occupation sites were discovered by the field investigations. No previously recorded archeological sites are within the general vicinity of the project area.

Native American Religious Concerns

Federally recognized Native Americans have been contacted. Known areas used for religious practices are not present. However, areas that may be considered sacred may be present. These areas would be evidenced by the discovery of unknown human burials or the traditional location for gathering an herb used in religious practice.

Recreation/Visual/Noise Resources

Boating, ATV riding, fishing and hunting are the normal outdoor recreation for this area. Van Buren County, Arkansas has abundant resources and land (private and government) available to accommodate these types of activities. However, access to these recreational resources can be limited due to remoteness or private property.

The visual resources found in the project area consist of wooded areas, cattle and chicken farms, small house structures, county road to the south, secondary roads, existing well pads, and small ponds/lakes. The existing visual resources in the immediate vicinity of the proposed actions have more of a rural appearance even though of its close proximity to the community of Choctaw, Arkansas being only about 4 miles away to the west.

Existing sources of noise are limited to petroleum development activities, vehicular traffic on state highways, county roads and other existing secondary roads, and/or private landowners nearby.

Energy Policy/Minerals

As manager of more public land than any other Federal agency, the Bureau of Land Management has a key role in implementing the Energy Policy Act of 2005. The BLM's management of 256 million surface acres and 700 million subsurface acres of mineral estate provides for multiple uses of the land, including energy development. The proposed APDs look to produce gas from approximate depths of 2,900 feet in Van Buren County, Arkansas.

Wastes, Hazardous or Solid

During the on-site inspection, no waste site (hazardous or non-hazardous) being solid or liquid was found in the project area. The private property is utilized for a cattle farm and recreational hunting. From the onsite, nothing in the surrounding area has had signs of being impacted from trash or other waste material.

Soils

The soil type associated with this project area according to the Natural Resource Conservation Service (NRCS) is the Linker soils.

Linker soils are usually 3 to 8 percent slopes in pasture that had previously been cultivated. Soils are well drained with slow to rapid runoff. Permeability is moderate. Major uses are pasture,

cattle & poultry operations, and woodlands. Dominant vegetation usually bermuda grass and bahaiagrass. Wooded vegetation usually has red oak, post oak, blackjack oak, sweetgum, blackgum, hickory, shortleaf pine. Distribution of soils are from Boston Mountains, Arkansas Valley and Ridges, and Ouachita Highlands of Arkansas, and Oklahoma; Cumberland Plateau and Mountains of Tennessee, Kentucky, and Georgia; Sand Mountain area of Alabama. The Linker series was classified in the Red-Yellow Podzolic great soil group in the 1938 classification system.

Air Quality

The Clean Air Act of 1970, as amended, requires the establishment of National Ambient Air Quality Standards (NAAQS). Both primary and secondary standards are now in effect. Primary standards define levels of air quality that the Administrator of the Environmental Protection Agency (EPA) judges to be necessary, with an adequate margin of safety, to protect the public health. Secondary standards define levels of air quality that the Administrator of the EPA judges to be necessary to protect the public from any known or anticipated adverse effects of a pollutant. The NAAQS pollutants are monitored in Arkansas by the Arkansas Department of Environmental Quality (ADEQ). These include carbon monoxide, nitrogen dioxide, ozone, sulfur dioxide, total suspended particulate, particulate matter less than 10 microns, and lead. The area of the proposed well is within standard ranges for air quality. No emissions are present on said property that would be outside the parameters of federal and/or state air emission and quality standards.

Water Quality, Surface/Ground

Surface Water Quality

The Arkansas River Valley Region exhibits distinct seasonal characteristics of its surface waters with zero flows common during summer critical conditions. Peak runoff events from within this region tend to introduce contaminants from the predominantly agricultural land use, which are primarily pasture lands with increasing poultry production. The development of natural gas has resulted in some site-specific water quality degradation. Soil types in much of this area are highly erosive and tend to easily go into colloidal suspension, thus causing long-lasting, high-turbidity values (ADEQ 2008).

Ground Water Quality

Almost all of the surficial aquifers supply water of good to very good quality, ranging from calcium-bicarbonate to sodium-bicarbonate water types. Areas of poor water quality can result from both natural and anthropogenic sources. Natural sources of contamination are typically regional in extent and are related to water-rock interactions. Anthropogenic impacts include both point and nonpoint sources of contamination. Nonpoint sources can result in large areas of impact, although contaminant concentrations typically are significantly lower than point sources, and the contaminants typically represent soluble, non-reactive species. Point sources of contamination often result in elevated levels of contaminants that exceed federal maximum contaminant levels; however, the extent of contamination normally is confined to a small area, with little to no offsite migration or impact on receptors (ADEQ 2008).

The initial Arkansas Nonpoint Source Pollution Assessment (1988) assessed approximately 4,068 miles of stream and found that 58 percent of the assessed streams were not meeting all designated uses. Limited data for the 79 significant publicly owned lakes indicated no use impairment by nonpoint sources. The 1988 assessment identified agriculture and mining as the primary categories of nonpoint source pollution causing impairments to water bodies of the state (ADEQ 2008).

The 1988 assessment was updated in June 1997, using updated assessment criteria. The 1997 report assessed 8,700 stream miles and indicated that nonpoint source pollution was impacting (but not necessarily impairing) more than 4,100 stream miles. Agricultural impacts were identified as the major cause of impacts on 3,197 stream miles. Other major impacts were related to silviculture activities, road construction/maintenance activities, and unknown sources. The unknown source was mercury contamination of fish tissue (ADEQ 2008).

Wetlands/Riparian Areas/Floodplains

The project area is within the Arkansas River valley. Surrounding the well site is farmland, livestock ranching, and timber production. Drainage is usually north to south. Well site area is on level to rolling pasture used for cattle. The site will occupy and require the removal of a small man-made pond. Site of the man-made pond was preferred by the private land owner so that less pasture would be taken by the proposed well site. The U.S. Army Corp of Engineers (COE) was consulted about the man-made pond and responded with a letter dated April 3, 2013 to SEECO, Inc. stating no jurisdictional wetlands or waters will be affected by the proposed project.

Invasive/Exotic Species

Harbor Environmental and Safety conducted a field survey of the project area on December 12, 2012. No exotic species were observed on the area of interest. However, there are several exotic species with the potential to occur including: Japanese honeysuckle (*Lonicera japonica*), shrubby bushclover (*Lespedeza frutescens*), Chinese privet (*Ligustrum sinense*), Chinese bushclover (*L. cuneata),* Japanese privet, (*L. japonicum*), and yellow sweetclover (*Melilotus officinalis*).

Special Status Species

Table 1 presents the species listed by the U.S. Fish and Wildlife Service (FWS) as known to occur in Van Buren County, Arkansas. The table also presents a summary of effects from the proposed construction activities on those species. Specific information regarding habitat requirements and rationale for those determinations are provided below under each species section. Table 2 presents the Arkansas Natural Heritage Commission rare species list.

Federally Listed Species

Table 1: Summary of effects to federal listed species.

Species	Federal Status	Determination	Rationale
Speckled Pocketbook	Endangered	May affect, not	No suitable

(*Lampsilis streckeri)*		likely to adversely affect	habitat within project area.
Yellowcheek Darter (*Etheostoma moorei)*	Endangered	May affect, not likely to adversely affect	No suitable habitat within project area.
Gray bat (*Myotis grisescens)*	Endangered	No affect	No suitable habitat within project area.
Bald Eagle (*Haliaeetus leucocephalus*)	Delisted (Protected under the Bald and Golden Eagle Protection Act)	No affect	No suitable habitat within project area.

Speckled pocketbook (*Lampsilis strekeri*) (Endangered)

The speckled pocketbook is a medium-sized (reaching approximately 80 mm in length) freshwater mussel with a thin, dark-yellow or brown shell with chevron-like spots, and chain-like rays. Like other freshwater mussels, the speckled pocketbook feeds by filtering food particles from the water column. The specific food habits of the species are unknown, but other juvenile and adult freshwater mussels have been documented to feed on detritus, diatoms, phytoplankton, and zooplankton. The diet of speckled pocketbook glochidia, like other freshwater mussels, comprises water (until encysted on a fish host) and fish body fluids (once encysted). This species is typically found in coarse to muddy sand with a constant flow of water. The speckled pocketbook is not associated with slow current, pools, or stretches of rivers with intermittent flow.

Historically, populations occurred in Archey, Middle, and South Forks of the Little Red River, Van Buren County, Arkansas. Currently, the speckled pocketbook can only be found north of Greers Ferry Lake in the upper Little Red River watershed. This species has been found in recent years from the following streams in the Little Red River drainage: Archey, Beech, Middle, South, and Turkey Forks of the Little Red River, and Big Creek. It is also of note that the Middle Fork of the Little Red River has recently been designated by the FWS as Critical Habitat for yellowcheek darter. The Speckled Pocketbook is unlikely to occur on the tract due to the distance to stream bodies. However, this tract is within the Choctaw Creek watershed which drains directly into Greers Ferry Reservoir. As a result, runoff from the proposed well site could impact water quality and quantity in this watershed which could in turn have an effect on this species.

Yellowcheek darter (*Etheostoma moorei*) (Endangered)

The yellowcheek darter (*Etheostoma moorei*) is a small and compressed fish which attains a maximum standard length of about 64 mm (2.5 inches), has a moderately sharp snout, deep body, and deep caudal peduncle. The back and sides are grayish brown, often with darker brown saddles and lateral bars. Breeding males are brightly colored with a bright blue or brilliant turquoise breast and throat and light green belly, while breeding females possess orange and red-orange spots but are not brightly colored. First collected in 1959 from the Devils Fork tributary of the Little Red River, this species

was eventually described by Raney and Suttkus in 1964, using 228 specimens from the Middle Fork, South Fork, and Devils Fork tributaries of the Little Red River. The yellowcheek darter is one of only two members of the subgenus *Nothonotus* known to occur west of the Mississippi River. The Yellowcheek Darter is unlikely to occur on the tract due to the distance to stream bodies. However, this tract is within the Choctaw Creek watershed which drains directly into Greers Ferry Reservoir. As a result, runoff from the proposed well site could impact water quality and quantity in this watershed which could have an effect on this species.

Gray bat (*Myotis grisescens*) (Endangered)

This species occurs mainly in the karst region of the eastern and central U.S. and is highly vulnerable to disturbance. Only a few caves contain most of the individuals. As a result of ongoing cave protection efforts, the total population is increasing. Each summer colony occupies a traditional home range that often contains several roosting caves scattered along as much as 70 kilometers of river or reservoir borders. Individuals forage along rivers or shoreline up to 20 km from their roosts. Forested areas along the banks of streams and lakes provide important protection for adults and young. Young often
feed and take shelter in forest areas near the entrance to cave roosts. This species does not feed in areas along rivers or reservoirs where the forest has been cleared. No caves are located on the proposed site and no known caves are located in the immediate surrounding area. The gray bat is unlikely to roost on the tract as there is no suitable habitat located on or near the tract.

Bald Eagle (*Haliaeetus leucocephalus*) (delisted – monitoring program)

The bald eagle was delisted in 2007 due to recovery. A five year monitoring program has been established to ensure that bald eagle populations are stable, and that delisting continues to be appropriate for this species. Bald eagles will remain protected under the Bald and Golden Eagle Protection Act, as well as the Migratory Bird Treaty Act. Bald eagles are associated with large inland lakes, large rivers and coastal waters and use large old growth pine, bald cypress and some oak species, usually within ¼ mile of inland lakes and large rivers for nesting and loafing. There are no large lakes or rivers near the proposed site therefore suitable habitat for this species is not present.

State Listed Species

The Arkansas Natural Heritage Commission (ANHC) has identified numerous sensitive invertebrate, vertebrate and plant species in Van Buren County. Many of those species occur in rare or unique habitats such as prairies, sandstone glades, rocky outcroppings and rocky riverine edge habitat. Table 2 presents a list of rare species located in Van Buren County, AR, as determined by the ANHC.

Table 2. Arkansas Natural Heritage Program rare species list.

Name	Status		Rank	
	Federal	State	Global	State
Animals - Invertebrates				
Animals - Invertebrates				
Alasmidonta marginata (elktoe)	-	INV	G4	S3
Allocapnia ornata (bowed snowfly)	-	INV	G1	S1
Cicindela hirticollis (beach-dune tiger beetle)	-	INV	G5	S2S3
Cicindela unipunctata (woodland tiger beetle)	-	INV	G4G5	S2
Crangonyx aka (an amphipod)	-	INV	G1	S1?
Cyclonaias tuberculata (purple wartyback)	-	INV	G5	S3?
Cyprogenia aberti (western fanshell)	-	INV	G2G3Q	S2
Heterosternuta sulphuria (Sulphur Springs diving beetle)	-	INV	G1?	S1?
Lampsilis satura (sandbank pocketbook)	-	INV	G2	S2
Lampsilis siliquoidea (fatmucket)	-	INV	G5	S3
Lampsilis streckeri (speckled pocketbook)	LE	INV	G1Q	S1
Lasmigona costata (flutedshell)	-	INV	G5	S3
Ligumia recta (black sandshell)	-	INV	G5	S2
Obovaria jacksoniana (southern hickorynut)	-	INV	G2	S2
Pleurobema rubrum (pyramid pigtoe)	-	INV	G2G3	S2
Ptychobranchus occidentalis (Ouachita kidneyshell)	-	INV	G3G4	S3
Quadrula cylindrica cylindrica (rabbitsfoot)	C	INV	G3G4T3	S2
Simpsonaias ambigua (salamander mussel)	-	INV	G3	S1
Speyeria diana (Diana)	-	INV	G3G4	S2S3
Toxolasma lividus (purple lilliput)				
Uniomerus tetralasmus (pondhorn)	-	INV	G5	S2
Venustaconcha pleasii (bleedingtooth mussel)	-	INV	G3G4	S3
Villosa iris (rainbow)	-	INV	G5Q	S2S3
Villosa lienosa (little spectaclecase)	-	INV	G5	S3
Animals - Vertebrates	C	INV	G1	S1
Ambystoma annulatum (ringed salamander)	-	INV	G4	S3
Cyprinella spiloptera (spotfin shiner)	-	INV	G5	S1
Empidonax traillii (Willow Flycatcher)	-	INV	G5	S1B,S3N
Erimystax harryi (Ozark chub)	-	INV	G3G4Q	S3S4
Etheostoma moorei (yellowcheek darter)	LE	INV	G1	S1
Haliaeetus leucocephalus (Bald Eagle)				
Myotis grisescens (gray myotis)	LE	INV	G3	S2S3
Notropis ozarcanus (Ozark shiner)	-	INV	G3	S2
Ophisaurus attenuatus attenuatus (western slender glass lizard)	-	INV	G5T5	S3
Pantherophis emoryi (Great Plains rat snake)	-	INV	G5	S3
Percina nasuta (longnose darter)	-	INV	G3	S2
Plethodon angusticlavius (Ozark zigzag salamander)	-	INV	G4	S3
Regina septemvittata (queen snake)	-	INV	G5	S2
Plants - Vascular	-	INV	G1G3Q	S2
Asplenium pinnatifidum (lobed spleenwort)	-	INV	G4	S3
Callirhoe bushii (Bush's poppy-mallow)	-	INV	G3	S3

Name	Status		Rank	
	Federal	State	Global	State
Carex careyana (Carey's sedge)	-	INV	G4G5	S3
Carex hirtifolia (sedge)	-	INV	G5	S3
Carex sparganioides (bur-reed sedge)	-	INV	G5	S3
Caulophyllum thalictroides (blue cohosh)	-	INV	G4G5	S2
Claytonia caroliniana (Carolina spring-beauty)	-	INV	G5	SU
Claytonia ozarkensis (Ozark spring-beauty)	-	INV	G1G3Q	S2
Cuscuta coryli (hazel dodder)	-	INV	G5?	SU
Delphinium newtonianum (Moore's delphinium)	-	INV	G3	S3
Diphasiastrum digitatum (southern running-pine)	-	INV	G5	S1S2
Dryopteris x leedsii (Leed's wood fern)	-	INV	GNA	S1
Dulichium arundinaceum var. arundinaceum (three-way sedge)	-	INV	G5TNR	S2S3
Eriocaulon koernickianum (small-head pipewort)	-	SE	G2	S2
Heuchera villosa var. arkansana (Arkansas alumroot)	-	INV	G5T3Q	S3
Nemastylis nuttallii (Nuttall's pleat-leaf)	-	INV	G4	S2
Osmorhiza claytonii (hairy sweet-cicely)	-	INV	G5	S1S3
Paronychia virginica (yellow nailwort)	-	INV	G4	S2
Philadelphus hirsutus (hairy mock orange)	-	INV	G5	S2S3
Sanicula smallii (Small's black-snakeroot)	-	INV	G5	S3
Scleria muehlenbergii (Muhlenberg's nut-rush)	-	INV	G5	S1S2
Silene ovata (ovate-leaf catchfly)	-	ST	G3	S3
Solidago ptarmicoides (white flat-top goldenrod)	-	INV	G5	S1S2
Stylophorum diphyllum (celandine-poppy)	-	INV	G5	S3
Symphyotrichum sericeum (silvery aster)	-	INV	G5	S2
Tradescantia ozarkana (Ozark spiderwort)	-	INV	G3	S3
Utricularia subulata (zigzag bladderwort)	-	INV	G5	S2
Valerianella ozarkana (Ozark cornsalad)	-	INV	G3	S3
Viola canadensis var. canadensis (Canadian white violet)	-	INV	G5T5	S2
Special Elements - Natural Communities				
Upland Stream-Ozark Mountains	-	INV	GNR	SNR
Special Elements - Other				
Geological feature	-	INV	GNR	SNR

There were no federal or state listed species observed on the survey date.

Migratory Bird Species of Concern

No migratory bird species of concern were observed on the date surveyed. Migratory bird species of concern are unlikely to occur on the project area due to a prevalence of cleared habitat.

Wildlife and Vegetation

The future well pad is currently a hayfield with one large man-made pond, rimmed with pine and hardwood trees. A brush pile of fallen trees is located on site north of the pond. The tract is surrounded by agricultural land and forest. The general topography of the location is very flat. Stormwater flows north to a trench along the road and through a

culvert to a pond which feeds into the unnamed tributary of the South Fork of the Little Red River, approximately 1.8 miles from the site. One small wooded area is present along the west, north, and east sides of the pond. This wooded area is made up of pine, cedar, and hardwood trees. The pine trees are primarily shortleaf pines (*Pinus taeda*) ranging from 6 to 10 inches in diameter. Cedar trees on site typically range from 4 to 12 inches in diameter. Hardwood trees include white oak (*Quercus alba*), post oak (*Q. alata*) and red oak (*Q. falcata*) ranging from 6 to 12 inches in diameter.

Species likely to occur include: red-tailed hawk (*Buteo jamaicensis*), red-shouldered hawk (*Buteo lineatus*), turkey vulture (*Cathartes aura*), northern cardinal (*Cardinalis cardinalis*), blue jay (*Cyanocitta cristata*), eastern cottontail (*Sylvilagus floridanus*), coyote (*Canis latrans*), monarch butterfly (*Danaus plexippus*), dragonflies (*Aeshna* spp.), Tabinid flies and various isopods and arachnids.

Ch. 4 - ENVIRONMENTAL IMPACTS OF THE PROPOSED ACTION AND ALTERNATIVES

Introduction

This chapter assesses potential environmental consequences associated with direct, indirect, and cumulative effects of the Proposed Action and alternatives.

Based on review of the elements listed on the SSFO NEPA Form and consideration of the Purpose and Need statement prepared for this EA, the following elements will be addressed in this EA: Environmental Justice, Cultural/Paleontology, Native American Religious Concerns, Recreation, Visual Resources, Energy Policy, Minerals , Surface Protection, Hazardous Material, Soils, Air Quality, Water Quality, Floodplain, Wetlands/Riparian Zones, Invasive & Non-Native Spp., Wildlife/Botanical Spp., and T&E Wildlife/Botanical Spp.

Environmental Justice

No adverse human health and environmental effects will be anticipated that would encompass or affect minority and low-income populations in the area surrounding the well sites discussed in this EA.

Cultural Resources:

Direct and indirect impacts to known Historic Properties listed, eligible for listing, or potentially eligible for listing on the National Register of Historic Places will not occur with this action as proposed. However, direct and indirect impacts to currently unknown sites may occur. Impacts may include destruction by ground disturbing activities associated with the military mission of the Arkansas National Guard, or the movement of surface artifacts through degradation processes. Direct and indirect impacts could lead to the total destruction of a site. If an unknown site is discovered through any aspect of this undertaking, and if activities causing disturbance to the site would cease until additional consultation among the SMA, the operator,

the SHPO, Native Americans, other interested persons/agencies and the BLM occurs, adverse impacts to any potentially significant sites could be mitigated.

Native American Religious Concerns:

Direct and indirect impacts to known places used by Native Americans for religious activities will not occur, because none is known. However, if such a place is discovered or a place of religious importance such as human remains, through activities associated with this action, and the condition of approval is followed, impacts would be mitigated.

Recreation/Visual/Noise Resources

The proposed well site for both APDs is not near areas used for recreational purposes other than hunting from private landowner, nor is either well site visible from any residences. Residences in the area are accustomed to seeing oil and gas activity with no known objections to BLM of such activity. Because hunting is regulated by the state of Arkansas and wild game in Logan County is plentiful, hunting activities occur only at certain times of the year for each game species by state law. Hunting prohibitions for the well sites would be a short-term, direct impact while drilling but long-term impacts are not expected. Cumulative impacts to hunting wild game in this area should not occur.

Noise generation from well operations, would be associated with vehicle movements and the operation of production equipment. Impacts from noise on people and wildlife species inhabiting the areas are expected to be minimal and of occasional, short duration in case of required maintenance onsite.

Energy Policy/Minerals

Approving SEECO, Inc.'s wells would be keeping in line with BLM's responsibility for energy development and management. Approving the APDs will ensure that the U.S. government resources are not drained from private drilling in the surrounding area and that production of natural gas provides the U.S. government with appropriate royalties. Energy Policy Act of 2005 – Sets forth an energy research and development program covering: (1) energy efficiency; (2) renewable energy; (3) oil and gas; (4) coal; (5) Indian energy; (6) nuclear matters and security; (7) vehicles and motor fuels, including ethanol; (8) hydrogen; (9) electricity; (10) energy tax incentives; (11) hydropower and geothermal energy; and (12) climate change technology.

Title III: Oil and Gas

Subtitle B: Natural Gas
(Sec. 313) Designates FERC as the lead agency for coordinating federal permits and other authorizations and compliance with the National Environmental Policy Act of 1969 (NEPA). Directs FERC to establish a schedule for all federal authorizations.

Subtitle C: Production
(Sec. 322) Amends the Safe Drinking Water Act to exclude from the definition of underground injection the underground injection of fluids or propping agents (other than diesel fuels) pursuant to hydraulic fracturing operations related to oil or gas, or geothermal production activities.

Subtitle F: Access to Federal Lands
(Sec. 361) Requires the Secretary of the Interior to perform an internal review of current federal onshore oil and gas leasing and permitting practices.
(Sec. 364) Amends the Energy Act of 2000 to revise the requirement that the Secretary of the Interior, when inventorying all onshore federal lands, identify impediments or restrictions upon oil and gas development.
(Sec. 366) Amends the Mineral Leasing Act to set deadlines for an expedited permit application process.
(Sec. 368) Prescribes guidelines governing energy right-of-way corridors on federal land. Directs the Secretaries of Agriculture, of Commerce, of Defense, of Energy, and of the Interior (the Secretaries), in consultation with FERC, states, tribal or local government entities, affected utility industries, and other interested persons, are directed to consult with each other and to: (1) designate corridors for oil, gas, and hydrogen pipelines and electricity transmission and distribution facilities on federal land in the 11 contiguous Western States; (2) incorporate the designated corridors into the relevant energy land use and resource management or equivalent plans; and (3) ensure that additional corridors are promptly identified and designated.
(Sec. 371) Amends the Mineral Leasing Act to cite conditions for the reinstatement of oil and gas leases terminated for certain failure to pay rentals.

Subtitle G: Miscellaneous
(Sec. 390) States that action by the Secretary of the Interior in managing the public lands, or the Secretary of Agriculture in managing National Forest System Lands, with respect to certain oil or gas drilling related activities shall be subject to rebuttable presumption that the use of a categorical exclusion under NEPA would apply if the activity is conducted pursuant to the Mineral Leasing Act for the purpose of exploration or development of oil or gas.

Wastes, Hazardous or Solid

With approval of an APD , the operations for drilling would typically generate the following wastes; (a) discharge of drilling fluids and cuttings into the reserve pits, (b) waste generated from used lubrication oils and hydraulic fluids, some of which may be characteristic of, or listed as, hazardous waste, and (c) service company wastes as well as some general trash. Certain wastes unique to the exploration, development, or production of crude oil and natural gas have been exempted from federal regulation as hazardous waste under Subtitle C of the Resource Conservation and Recovery Act (RCRA) of 1976. The exempt waste must be intrinsic to exploration, development, or production activities and not generated as a part of a transportation or manufacturing operation. The drilling fluids, drill cuttings, and the produced waters are classified as a RCRA exempt waste, and the proposed action would not introduce any hazardous substance into the environment, if they are managed and disposed of properly under federal and state waste management regulations and guidelines. No cumulative impacts are anticipated to occur.

Soils

The action of constructing a well pad would have a direct, adverse impact on soils. These impacts would be limited to those areas where vegetation is removed and construction occurs. The impacts would be of two types: (1) physical removal, leveling and mixing of surface soils and (2) soil compaction. The first impact would be caused by site preparation for construction of the well pad, related structures, road construction, flow line construction, and wind and water erosion. This would cause a mixing of soil horizons and cause a short-term loss of soil productivity. The second impact, soil compaction, would be caused by vehicle and machinery travel. Compaction decreases air and water infiltration into the soil profile thus reducing soil productivity. Prompt cultivation and re-vegetation will be specified in BLM Surface Use Conditions of Approval (SUCOA) to minimize the loss of soil productivity. This would also prevent an increase of siltation into drainages or streams from run-off. Most disturbances have already taken place due to both wells pads are in production. Any further soil impacts would be limited to maintenance of the well site and vehicle traffic. No cumulative impacts would be anticipated to result from this action.

Air Quality

Air quality would be slightly affected locally by exploration, development and abandonment. Dust created during road and well site construction would increase suspended particulates in the air. However, this impact would be localized to the immediate vicinity of the well sites and flow line construction and would be of short duration. Dust from traffic and smoke and other emissions from vehicles and stationary engines used in drilling operations and flow line construction could increase air pollutants but again, these impacts would be localized and of short duration. Cumulative impacts to air quality should not occur with approval of this action.

Wetlands/Riparian Areas/Floodplains:

Any disturbances from drilling activities would avoid contamination and sedimentation into surrounding drains, creeks, streams, rivers, wetlands and/or springs. No creek or river is near the location but the Operator will be required to use silt fencing and other erosion protective practices to minimize anything leaving the well pad before, during, and after construction. A small, man-made pond will be removed to construct the well pad but COE found no issue with that action.

Water Quality, Surface/Ground:

Waste fluids associated with oil and gas operations could potentially have an adverse impact on surface and ground waters if allowed to leach into surface and ground water, possibly degrading water quality. SEECO, Inc. informed BLM and is stated in each APD that all drilling fluids will contained in tanks due to SEECO, Inc. using a "closed-loop" system and those tanks will be trucked off location and the fluid disposed of at an appropriate facility. No cumulative impacts are anticipated as a result of this action.

Invasive/Exotic Species

Surface disturbances can result in increased occurrence of invasive and exotic species. The Natural Resource Conservation Service (NRCS) provides guidelines for mulching, preparation, and planting of vegetation during site restoration (NRCS 1999). Native species are preferred for site restoration. Because of unreliable and/or slow germination and establishment rates of native species, however, site restoration typically is accomplished with a mixture of native and nonnative species. The nonnative species are quickly established to provide erosion control and wildlife support and are slowly replaced by native species (both by species that have been planted and by those recruited).

Regarding invasive species, SEECO, Inc. will apply BLM's recommended use of native grasses for re-vegetation efforts and requires post-construction monitoring for invasive species.

Special Status Species

No special status species (threatened, or endangered) are known to occur or expected to occur at the proposed site due to a lack of suitable habitat. BLM has determined that there should be "no affect" for the gray bat and bald eagle due to a lack of suitable habitat. BLM has determined that there "may affect, but is not likely to adversely affect" the speckled pocketbook and yellow-cheek darter. Although there is no suitable habitat for these species on the proposed site, this site is within the Choctaw Creek watershed. As a result, runoff from the proposed well site could impact water quality and quantity in this watershed which could in turn have an effect on these two species.

Informal consultation was initiated with FWS on February 7, 2013. FWS concurred with our determination of "no effect" for the gray bat and bald eagle and "may affect, but not likely to adversely affect" the speckled pocketbook and yellow-cheek darter. While their records did not indicate any bald eagles in the project area, bald eagle guidelines should be followed in accordance with the Bald and Golden Eagle Protection Act (16 U.S.C. 668-668d).

Consultation with the ANHC occurred on February 8, 2013. The ANHC reviewed their files for records indicating the occurrence of rare plants and animals, outstanding natural communities, natural or scenic rivers, or other elements of special concern within or near the project site. No records were found. To ensure the conservation of listed animals and plants, COAs regarding rare species apply to this proposal.

Wildlife and Vegetation

Wildlife use of proposed project site has more than likely been altered dramatically by previously being cleared. In addition, the high number of cleared acreage surrounding the proposed site for oil or gas projects has likely either diminished less mobile species populations, such as reptiles or amphibians, in the area or forced more mobile species such as birds and mammals to move elsewhere. Wildlife use of the site after the well is put into production would vary depending on vegetation and successional stage. Once put into production the well pad would be reduced in size and the reserve pit area would be graded and seeded. The producing

well site would be subject to regular maintenance and inspection. Wildlife use of the site is dependent on the adequacy of the restoration. Some acreage will more than likely never again be available for species utilization. Particular care should be given to ensure that erosion or other sediments from construction activities do not drain into Choctaw Creek which could potentially affect species, including the yellow-cheek darter and speckled.

No Action

There are no environmental impacts associated with the "No Action Alternative". However, selection of that alternative would result in the loss of potential revenue from the proposed development of the gas wells. Future drilling activities from private wells in the area could pose future issues of drainage of federal minerals. "No Action" decision would not allow the BLM to protect federal mineral interests from drainage of private wells around the BLM lease area.

Cumulative Impacts

Oil and Gas development does create impact that is cumulative as more development occurs. The cumulative impacts currently, though, are negligible since new disturbance from oil and gas development is minimal. The well site could have the possibility for more additional wells including the two proposed wells in this EA depending on SEECO's future production plans. Having multiple wells on one pad will help curve cumulative impacts from oil and gas development. When a well site is no longer producing, it is plugged, abandoned, and surface is reclaimed, so no cumulative impacts are expected to occur due to oil and gas production from the well.

CH. 5 - LIST OF PERSONS CONSULTED

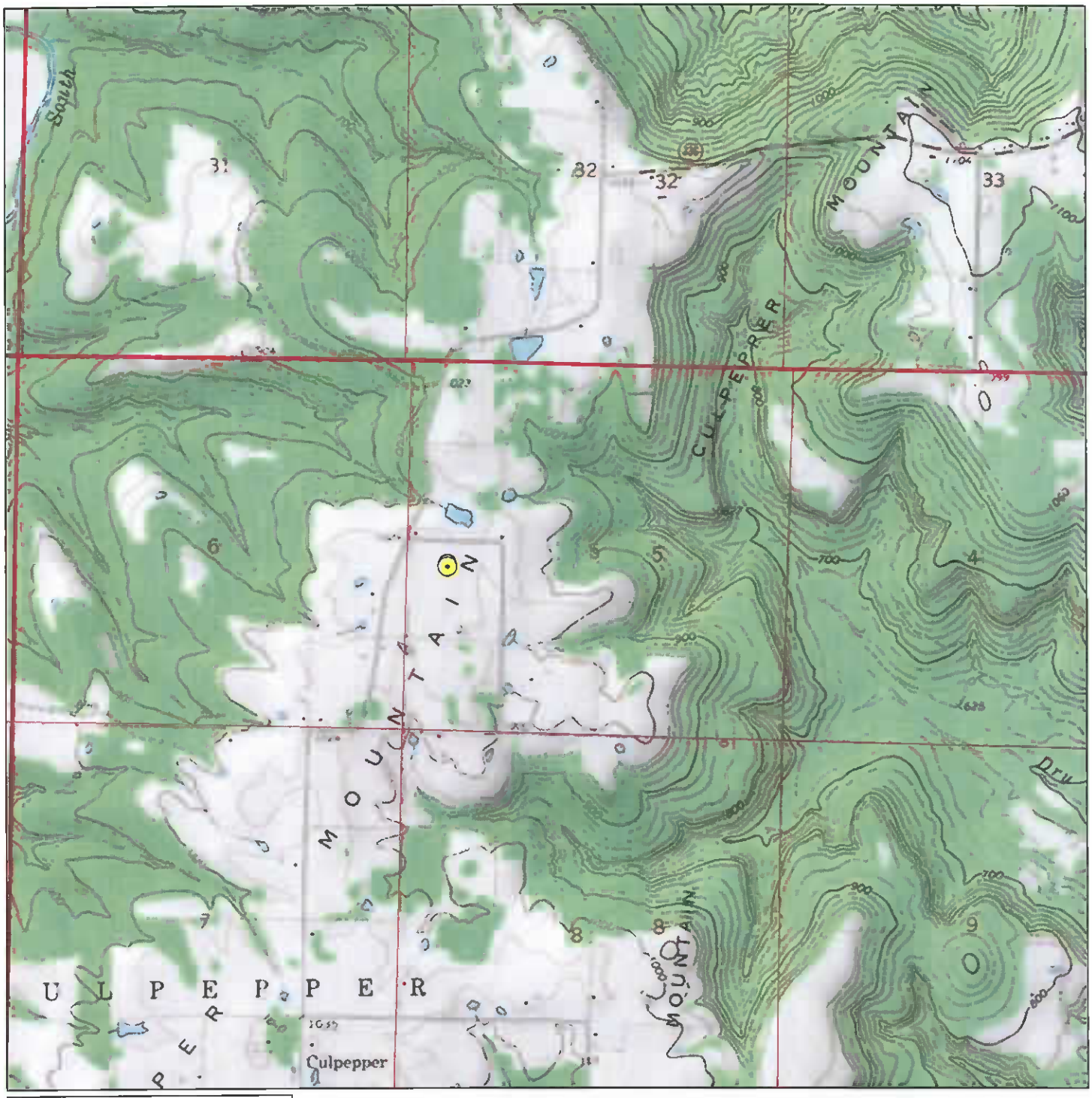
List of Preparers

Specialist Name	Title, Organization
Brian Kennedy	Physical Scientist, BLM
John Sullivan	Archeologist, BLM
Gary Taylor	Planning and Environmental Coordinator, BLM
Alison McCartney	Natural Resource Specialist
Faye Winters	Wildlife Biologist, BLM

APPENDIX A

Maps

Proposed Federal Oil & Gas Well
Company: SEECO, Inc.
Well Names: Reed 10-14 #7-5H8, #8-5H8, and #11-5H8
Van Buren County, Arkansas
T. 10N, R. 14W, Sec. 5; 5th Principal Meridian



Legend

Proposed Well Locations

0 1,000 2,000 4,000 6,000 8,000 Feet

1:24,000

N

U.S. Department of the Interior
Bureau of Land Management
Southeastern States Field Office
Jackson, Mississippi

Proposed Reed 10-14 #7-5H8 Well:
(T10N, R14W, Sec 5 - 2315' FSL & 553' FWL)

Proposed Reed 10-14 #8-5H8 Well:
(T10N, R14W, Sec 5 - 2295' FSL & 554' FWL)

Proposed Reed 10-14 #11-5H8 Well:
(T10N, R14W, Sec 5 - 2275' FSL & 555' FWL)

This map contains portions of the following USGS 1:24,000 Topographic Quadrangle: Scotland

APPENDIX B

Surface Use Conditions of Approval

Bureau of Land Management's
Surface Use Conditions of Approval (SUCOA)

Section 5, T. 10 N., R. 14 W., 5th Principal Meridian, Van Buren County, Arkansas on BLM Lease ARES-56356

Wells: Reed 10-14 #7-5H8 and #8-5H8

1. If previously unknown sites of religious activities and previously unknown Native American burials are discovered during any ground disturbing activity or any part of this action, these activities will cease so that consultation with appropriate Native American groups will take place. The Authorizing Officer will tell the operator within five (5) working days when or if work may proceed.

2. The operator will avoid known cultural/historic sites during all construction and will be held responsible for informing all persons working at the drill site that they are subject to prosecution for knowingly disturbing human remains, historic or archaeological sites and for collecting artifacts (Archaeological Resources Protection Act of 1979, as amended [16 United States Code 470] [43 CFR 7.4]). If human remains, historic or archaeological materials are uncovered during construction, the operator will immediately stop work that might further disturb such materials and contact the BLM, the landowner, and the State Historic Preservation Officer (SHPO) (36 CFR 800.11(b)(3)). Within five working days, the BLM, in consultation with the landowner and the SHPO, will inform the operator as to options available and how/if operation in the area of the human remains, historic or archaeological material may proceed. In addition, if a previously unknown site is discovered, consultation with the Advisory Council on Historic Preservation and Native American groups may also be conducted before operations may proceed.

3. The operator is required to take necessary measures to ensure that the final graded slopes are stabilized and to prevent the movement of soil from the pad area for the life of the project. Because of the short term nature of the project and to allow for complete decomposition, only all organic fibers including both the filler and web will be used to allow for complete decomposition. This could include the use of natural matting (jute, coconut fiber, etc.) on steeper slopes and/or use of silt fence at the toe of the slope, or additional mulching. No plastic or inorganic netting will be permitted. Silt fences and other sediment control objects must be maintained throughout the construction and initial phases of drilling and production. After seeding of natural grasses has taken hold to stop erosion of sediments off the pad location, such sediment control devices can be removed.

4. Any construction activities should, by using preventative measures, avoid drainage of fluids, sediments, and/or other contaminants from the well pad into any nearby water bodies or natural drainage areas off of the well pad location.

5. Equipment, fuels, and other chemicals will be properly stored to minimize the potential for spills to enter surface waters. Secondary containment will be provided for all containers stored on site.

6. For safety and protection to the surface and surrounding area, operator must keep the area clean of trash and other debris as much as possible to avoid damaging or contaminating the human and environmental health surrounding the well pad location.

7. No aerial application of herbicides or pesticides will be permitted. Any ground application of herbicides or other pesticides, sterilants, or adjuvants within 150 feet of listed species or habitat will require site-specific control measures developed in coordination or formal consultation with USFWS.

8. To prevent birds and bats from entering or nesting in or on open vent stack equipment, open vent stack equipment, such as heater-treaters, separators, and dehydrator units, will be designed and constructed to prevent birds and bats from entering or nesting in or on such units and, to the extent practical, to discourage birds from perching on the stacks. Installing cone-shaped mesh covers on all open vents is one suggested method. Flat mesh covers are not expected to discourage perching and will not be acceptable.

9. All power-lines must be built to protect raptors and other migratory birds, including bald eagles, from accidental electrocution, using methods detailed by the Avian Power Line Interaction Committee (APLIC 2006)

10. Any reserve pit that is not closed within 10 days after a well is completed and that contains water must be netted or covered with floating balls, or another method must be used to exclude migratory birds.

11. Speed on all operator-constructed and maintained (non-public) roads is advised to be around 25 miles per hour or less to minimize the chance of a collision with migratory birds or other federally listed wildlife species. Slower speeds allow for more reaction time to reduce potential vehicular injuries to wildlife. *Note: BLM can only advise of slower speeds.*

12. Disturbed lands will be re-contoured back to conform to existing undisturbed topography. No depressions will be left that trap water or form ponds. The operator will be responsible for re-contouring of any subsidence areas that may develop from after closing of the pit.

13. To discourage the spread of invasive, non-native plants it is recommended that native cover plants in seeding mixtures be used during reclamation activities. Final seed mixtures will be formulated in consultation with the private landowner. Post-construction monitoring for cogon grass and other invasive plant species should be conducted to ensure early detection and control. If invasive species are found, the proper control techniques should be used to either eradicate the species from the area or minimize its spread to other areas. If cogon grass is found on site, equipment should be washed before exiting the site to prevent the spread of this highly invasive species to other locations.

Regarding invasive species, SEECO, Inc. will apply BLM's recommended use of native grasses for re-vegetation efforts. Before interim and final reclamation of the well site, SEECO, Inc. will contact BLM for recommended native seed mixtures to be planted. BLM will also require post-construction monitoring for invasive species.

14. Phased reclamation plans will be submitted to BLM for approval prior to abandonment via a Notice of Intent (NOI) Sundry Notice. Individual facilities, such as well locations, pipelines, discharge points, impoundments, etc. need to be addressed in these plans as they are no longer needed. BLM will inspect those reclamation actions submitted by the operator to ensure that the operator has met all reclamation goals of the BLM and surface owner. A Notice of Intent to Abandon and a Subsequent Report of Abandonment must be submitted for abandonment approval by BLM. Final Abandonment Notice will be filed at the end awaiting BLM's approval of final reclamation. After BLM's approval of final reclamation, operator can be relinquished of its obligations and responsibilities to the well site.

APPENDIX C

Correspondence

DEPARTMENT OF THE ARMY
LITTLE ROCK DISTRICT, CORPS OF ENGINEERS
POST OFFICE BOX 867
LITTLE ROCK, ARKANSAS 72203-0867
www.swl.usace army.mil/

REPLY TO
ATTENTION OF

Regulatory Division

FILE NO. **2013-00061**

Mr. Tom Huetter
Southwestern Energy Exploration Company
PO Box 789
Conway, Arkansas 72033

Dear Mr. Huetter:

Please refer to your email request dated January 31, 2013, concerning Department of the Army permit requirements pursuant to Section 404 of the Clean Water Act. Southwestern Energy Exploration Company (SEECO) proposes to drain and fill a 0.27-acre man-made livestock pond to construct a natural gas well pad. The natural gas well pad is referred to as the Reed 10-14 #6-5H8 #8-5H8 and #11-5H8. The project is located in the W ½ of section 5, T. 10 N., R. 14 W., Van Buren County, Arkansas.

Corps of Engineers personnel have evaluated the site, including aerial photography, and found no wetland areas or other waters of the United States within the project area. Photographs of the livestock pond taken from four direction angles were also provided and reviewed. Drainage channels were not observed within the pond location from these photographs. Therefore, the proposed work at the subject location does not require a Section 404 Department of the Army permit.

This determination does not relieve you of complying with other applicable local, state, and Federal laws.

We have attached the Approved Jurisdictional Determination and the Notification of Administrative Appeal Options and Process and Request for Appeal. The notification describes your options regarding this action.

Your cooperation in the Corps of Engineers regulatory program is appreciated. If you have any questions, please contact me at (501) 324-5295.

Please submit your comments or suggestions on our Customer Service Survey: http://sys.saw.sw.lusace.army.mil/regulatory_customer_service.html

Sincerely,

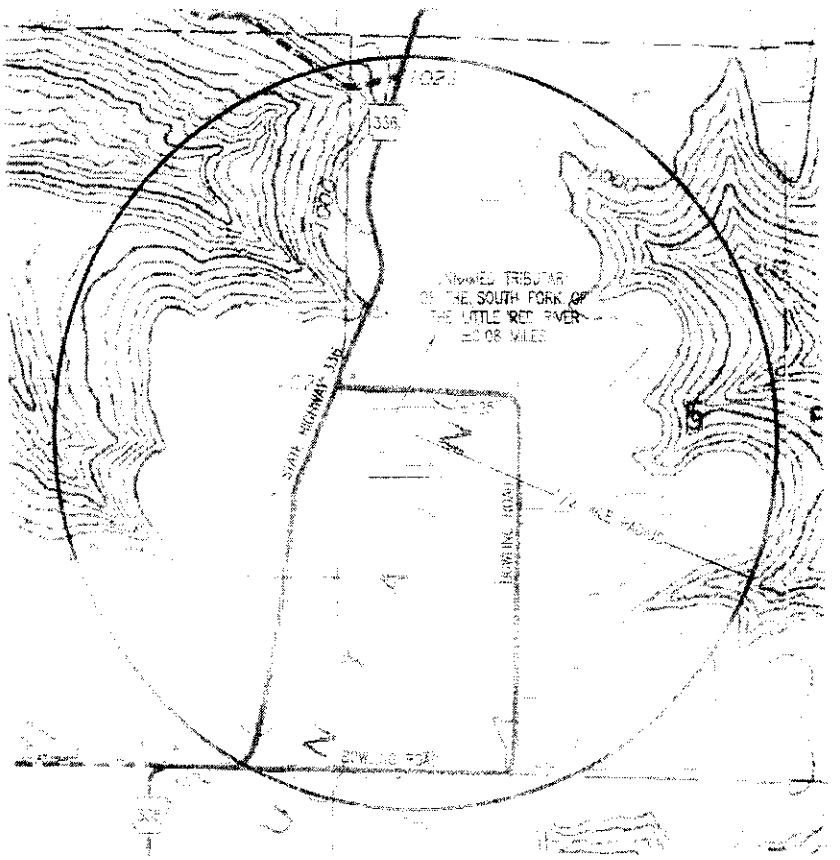
Cynthia W. Blansett

Cynthia W. Blansett
Project Manager

Enclosures

HOFFMAN

DRAFT
10-03-2012



ACTION NO. **2013-00061**
Southwestern Energy Exploration
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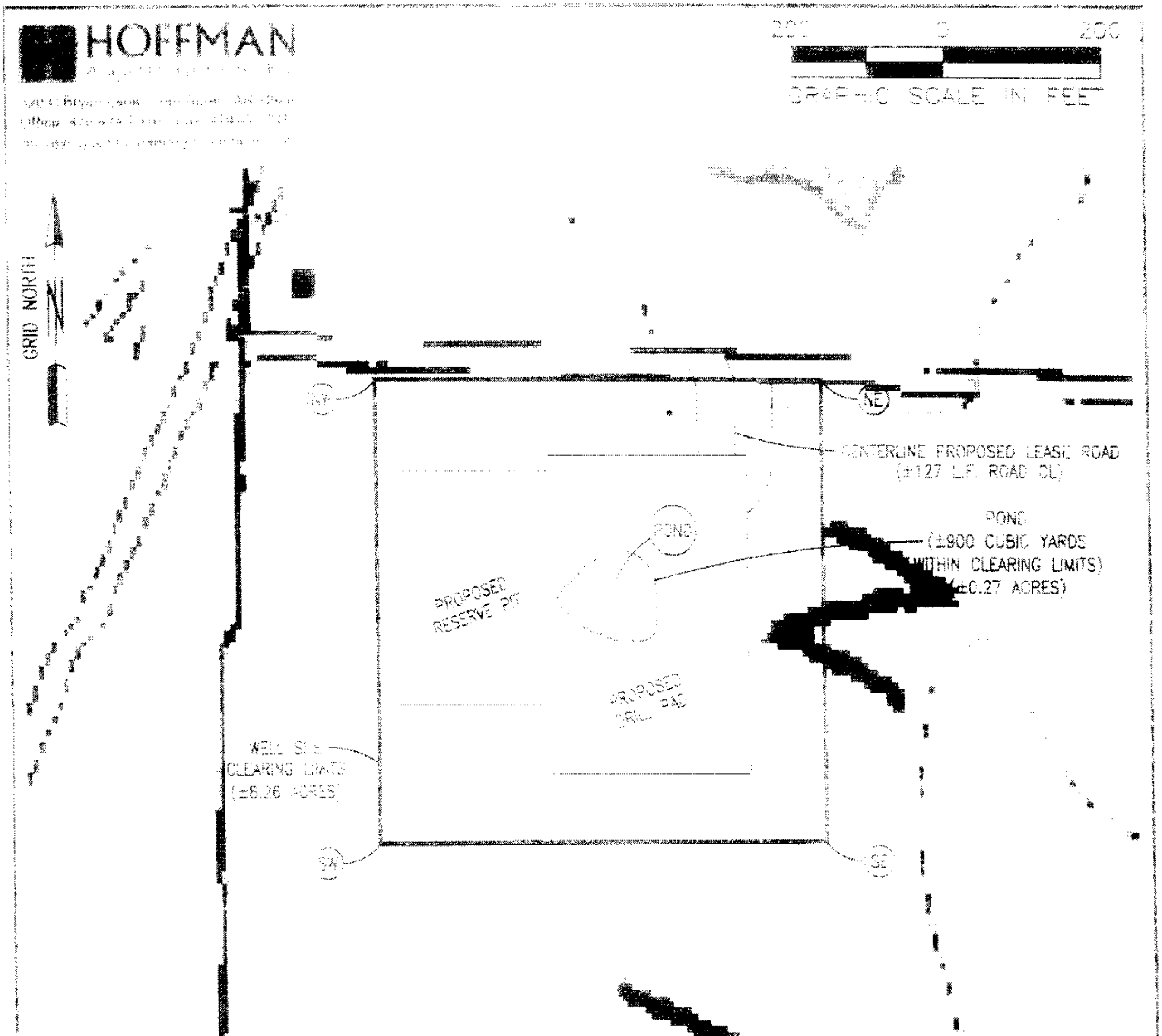
Section 5, T. 10 N., R. 14 W.
[illegible] Sheet 1 of 3



POINTS	NAD27 LATITUDE	NAD27 LONGITUDE	UTM NAD83 ZONE15N METER NORTHING	UTM NAD83 ZONE15N METER EASTING
WELL LOCATION				
SHL	35.535208	-92.509108	3932517.543	544486.821
NW COR	35.536026	-92.510288	3932607.787	544379.368
NE COR	35.536034	-92.508272	3932609.549	544562.200
SE COR	35.534385	-92.508252	3932426.733	544563.956
SW COR	35.534376	-92.510279	3932424.971	544381.129
CENTER POND	35.535264	-92.509216	3932522.565	544477.043

NOTE:
1. ALL VOLUMES AND ACREAGES PRESENTED HEREIN ARE CALCULATED BELOW THE ORDINARY HIGH WATER LINE.

REVISIONS

SWN
Production Company

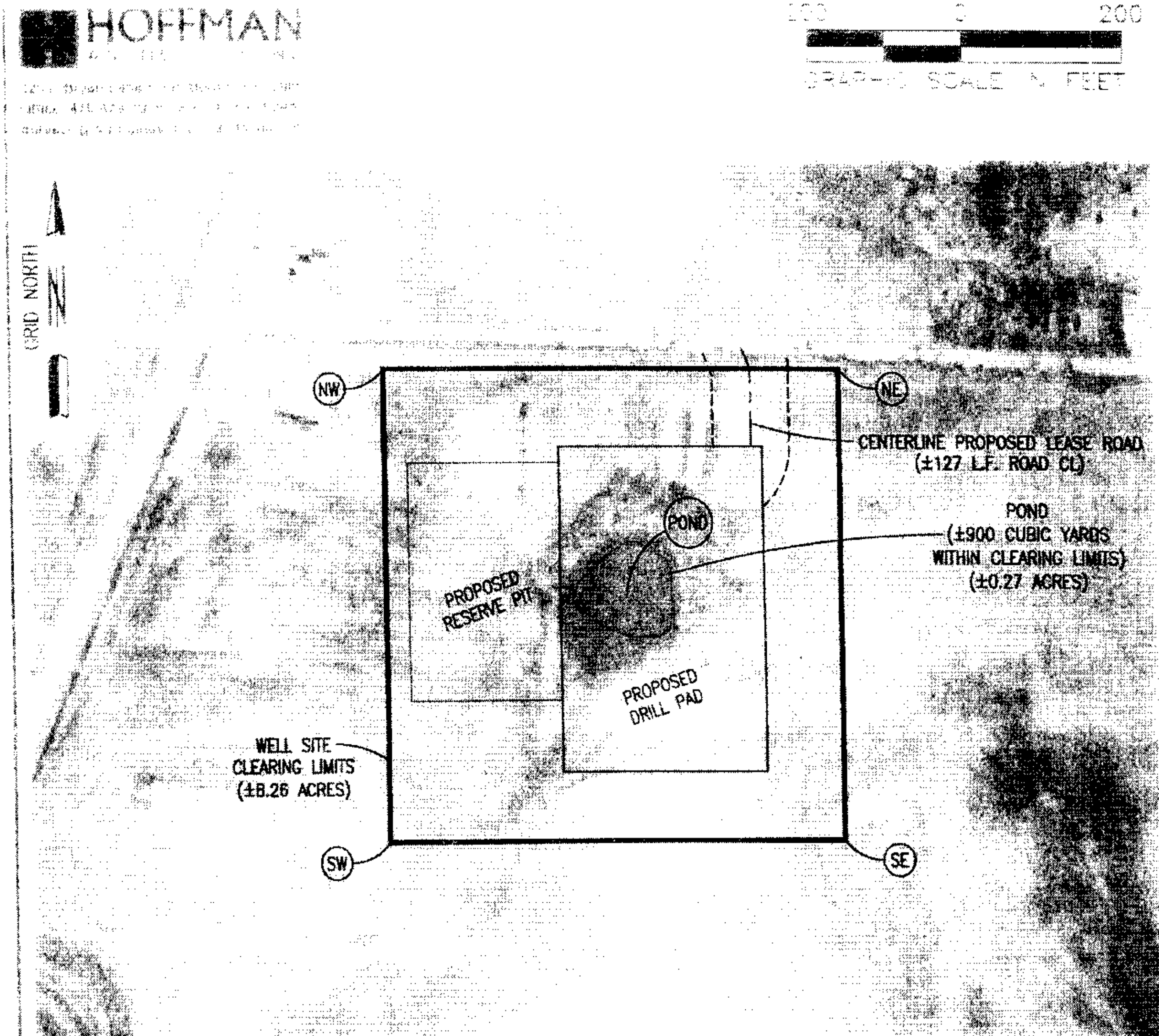
"REED 10-14 6-5H8 - 8-5H8 & 11-5H8"
PROPOSED WELL SITE & LEASE ROAD
OUT OF THE SW/4 & THE NW
VAN BUREN COUNTY

SCALE: 1" = 200'
DATE: 10-17-2012
DRAWN BY: ...

ACTION NO. 2013-00061
Southwestern Energy Exploration
FILL
Section 5, T. 10 N., R. 14 W.
April 2013 Sheet 2 of 3

S:\GAS WELLS\52000-52999\52316\52316-POND.DWG

HOFFMAN



	NAD27		UTM NAD83 ZONE15N METER	
POINTS	LATITUDE	LONGITUDE	NORTHING	EASTING
WELL LOCATION				
SHL	35.535208	-92.509128	3932517.540	544436.821
NW COR	35.536026	-92.510288	3932607.787	544379.368
NE COR	35.536034	-92.508272	3932609.549	544562.200
SE COR	35.534385	-92.508262	3932426.733	544563.956
SW COR	35.534376	-92.510279	3932424.971	544381.129
CENTER POND	35.535254	-92.509216	3932522.656	544477.043

NOTE:
1. ALL VOLUMES AND ACREAGES PRESENTED HEREIN ARE CALCULATED BELOW THE ORDINARY HIGH WATER LINE.

REVISIONS

SWN

REED [illegible] 8-5HB - 8-5HB & [illegible]-5HB

PROPOSED WELL SITE & [illegible]

OUT OF THE S/2 [illegible] THE [illegible]

VAN BUREN COUNTY [illegible]

SCALE: 1" = 200'
DATE: 10-[illegible]
DRAWN BY: K. IRVIN

ACTION NO. **2013-00061**
Southwestern Energy Exploration
FILL
Section 5, 1, 10 N., R. 14 W.
April 2013 Sheet 3 of 3

APPROVED JURISDICTIONAL DETERMINATION FORM
U.S. Army Corps of Engineers

This form should be completed by following the instructions provided in Section IV of the JD Form Instructional Guidebook.

SECTION I: BACKGROUND INFORMATION

A. REPORT COMPLETION DATE FOR APPROVED JURISDICTIONAL DETERMINATION (JD): 29 March 2013

B. DISTRICT OFFICE, FILE NAME, AND NUMBER: Little Rock District, NATGAS - SEECO - Reed 10-14 #6-5H8 - #8-5H8 and #11-5H8 well pad, 2013-00061

C. PROJECT LOCATION AND BACKGROUND INFORMATION:
State: Arkansas County/parish/borough: Van Buren City:
Center coordinates of site (lat/long in degree decimal format): Lat. 35.53533° **N**. Long. -92.50937° **W**.
Universal Transverse Mercator: 3932522, 544477
Name of nearest waterbody: Dry Fork Choctaw Creek
Name of nearest Traditional Navigable Water (TNW) into which the aquatic resource flows: Little Red River
Name of watershed or Hydrologic Unit Code (HUC): 11010014
☒ Check if map/diagram of review area and/or potential jurisdictional areas is/are available upon request.
☐ Check if other sites (e.g., offsite mitigation sites, disposal sites, etc…) are associated with this action and are recorded on a different JD form.

D. REVIEW PERFORMED FOR SITE EVALUATION (CHECK ALL THAT APPLY):
☒ Office (Desk) Determination. Date: 29 March 2013
☐ Field Determination. Date(s):

SECTION II: SUMMARY OF FINDINGS

A. RHA SECTION 10 DETERMINATION OF JURISDICTION.

There **Are no** *"navigable waters of the U.S."* within Rivers and Harbors Act (RHA) jurisdiction (as defined by 33 CFR part 329) in the review area. [*Required*]
☐ Waters subject to the ebb and flow of the tide.
☐ Waters are presently used, or have been used in the past, or may be susceptible for use to transport interstate or foreign commerce.
Explain:

B. CWA SECTION 404 DETERMINATION OF JURISDICTION.

There **Are no** *"waters of the U.S."* within Clean Water Act (CWA) jurisdiction (as defined by 33 CFR part 328) in the review area. [*Required*]

1. **Waters of the U.S.**
   a. **Indicate presence of waters of U.S. in review area (check all that apply):** [1]
      ☐ TNWs, including territorial seas
      ☐ Wetlands adjacent to TNWs
      ☐ Relatively permanent waters[2] (RPWs) that flow directly or indirectly into TNWs
      ☐ Non-RPWs that flow directly or indirectly into TNWs
      ☐ Wetlands directly abutting RPWs that flow directly or indirectly into TNWs
      ☐ Wetlands adjacent to but not directly abutting RPWs that flow directly or indirectly into TNWs
      ☐ Wetlands adjacent to non-RPWs that flow directly or indirectly into TNWs
      ☐ Impoundments of jurisdictional waters
      ☐ Isolated (interstate or intrastate) waters, including isolated wetlands

   b. **Identify (estimate) size of waters of the U.S. in the review area:**
      Non-wetland waters: linear feet: width (ft) and/or acres.
      Wetlands: acres.

   c. **Limits (boundaries) of jurisdiction** based on: **Pick List**
      Elevation of established OHWM (if known):

2. **Non-regulated waters/wetlands (check if applicable):**[3]
   ☐ Potentially jurisdictional waters and/or wetlands were assessed within the review area and determined to be not jurisdictional.
   Explain:

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[1] Boxes checked below shall be supported by completing the appropriate sections in Section III below.
[2] For purposes of this form, an RPW is defined as a tributary that is not a TNW and that typically flows year-round or has continuous flow at least "seasonally" (e.g., typically 3 months).
[3] Supporting documentation is presented in Section III.F.

SECTION III: CWA ANALYSIS

A. TNWs AND WETLANDS ADJACENT TO TNWs

The agencies will assert jurisdiction over TNWs and wetlands adjacent to TNWs. If the aquatic resource is a TNW, complete Section III.A.1 and Section III.D.1. only; if the aquatic resource is a wetland adjacent to a TNW, complete Sections III.A.1 and 2 and Section III.D.1.; otherwise, see Section III.B below.

1. **TNW**
   Identify TNW:

   Summarize rationale supporting determination:

2. **Wetland adjacent to TNW**
   Summarize rationale supporting conclusion that wetland is "adjacent":

B. CHARACTERISTICS OF TRIBUTARY (THAT IS NOT A TNW) AND ITS ADJACENT WETLANDS (IF ANY):

This section summarizes information regarding characteristics of the tributary and its adjacent wetlands, if any, and it helps determine whether or not the standards for jurisdiction established under *Rapanos* have been met.

The agencies will assert jurisdiction over non-navigable tributaries of TNWs where the tributaries are "relatively permanent waters" (RPWs), i.e. tributaries that typically flow year-round or have continuous flow at least seasonally (e.g., typically 3 months). A wetland that directly abuts an RPW is also jurisdictional. If the aquatic resource is not a TNW, but has year-round (perennial) flow, skip to Section III.D.2. If the aquatic resource is a wetland directly abutting a tributary with perennial flow, skip to Section III.D.4.

A wetland that is adjacent to but that does not directly abut an RPW requires a significant nexus evaluation. Corps districts and EPA regions will include in the record any available information that documents the existence of a significant nexus between a relatively permanent tributary that is not perennial (and its adjacent wetlands if any) and a traditional navigable water, even though a significant nexus finding is not required as a matter of law.

If the waterbody[4] is not an RPW, or a wetland directly abutting an RPW, a JD will require additional data to determine if the waterbody has a significant nexus with a TNW. If the tributary has adjacent wetlands, the significant nexus evaluation must consider the tributary in combination with all of its adjacent wetlands. This significant nexus evaluation that combines, for analytical purposes, the tributary and all of its adjacent wetlands is used whether the review area identified in the JD request is the tributary, or its adjacent wetlands, or both. If the JD covers a tributary with adjacent wetlands, complete Section III.B.1 for the tributary, Section III.B.2 for any onsite wetlands, and Section III.B.3 for all wetlands adjacent to that tributary, both onsite and offsite. The determination whether a significant nexus exists is determined in Section III.C below.

1. **Characteristics of non-TNWs that flow directly or indirectly into TNW**

   (i) **General Area Conditions:**
   Watershed size: **Pick List**
   Drainage area: **Pick List**
   Average annual rainfall: inches
   Average annual snowfall: inches

   (ii) **Physical Characteristics:**
   (a) Relationship with TNW:
   ☐ Tributary flows directly into TNW.
   ☐ Tributary flows through **Pick List** tributaries before entering TNW.

   Project waters are **Pick List** river miles from TNW.
   Project waters are **Pick List** river miles from RPW.
   Project waters are **Pick List** aerial (straight) miles from TNW.
   Project waters are **Pick List** aerial (straight) miles from RPW.
   Project waters cross or serve as state boundaries. Explain:

   Identify flow route to TNW[5]:
   Tributary stream order, if known:

---

[4] Note that the Instructional Guidebook contains additional information regarding swales, ditches, washes, and erosional features generally and in the arid West.

[5] Flow route can be described by identifying, e.g., tributary a, which flows through the review area, to flow into tributary b, which then flows into TNW.

(b) General Tributary Characteristics (check all that apply):

Tributary is: ☐ Natural
☐ Artificial (man-made). Explain: .
☐ Manipulated (man altered). Explain: .

Tributary properties with respect to top of bank (estimate):
Average width: feet
Average depth: feet
Average side slopes: **Pick List.**

Primary tributary substrate composition (check all that apply):
☐ Silts ☐ Sands ☐ Concrete
☐ Cobbles ☐ Gravel ☐ Muck
☐ Bedrock ☐ Vegetation. Type/% cover:
☐ Other. Explain: .

Tributary condition/stability [e.g., highly eroding, sloughing banks]. Explain: .
Presence of run/riffle/pool complexes. Explain: .
Tributary geometry: **Pick List**
Tributary gradient (approximate average slope): %

(c) Flow:

Tributary provides for: **Pick List**
Estimate average number of flow events in review area/year: **Pick List**
Describe flow regime: .
Other information on duration and volume:

Surface flow is: **Pick List.** Characteristics: .

Subsurface flow: **Pick List.** Explain findings: .
☐ Dye (or other) test performed.

Tributary has (check all that apply):
☐ Bed and banks
☐ OHWM[6] (check all indicators that apply):
☐ clear, natural line impressed on the bank ☐ the presence of litter and debris
☐ changes in the character of soil ☐ destruction of terrestrial vegetation
☐ shelving ☐ the presence of wrack line
☐ vegetation matted down, bent, or absent ☐ sediment sorting
☐ leaf litter disturbed or washed away ☐ scour
☐ sediment deposition ☐ multiple observed or predicted flow events
☐ water staining ☐ abrupt change in plant community
☐ other (list):
☐ Discontinuous OHWM.[7] Explain: .

If factors other than the OHWM were used to determine lateral extent of CWA jurisdiction (check all that apply):
☐ High Tide Line indicated by: ☐ Mean High Water Mark indicated by:
☐ oil or scum line along shore objects ☐ survey to available datum;
☐ fine shell or debris deposits (foreshore) ☐ physical markings;
☐ physical markings/characteristics ☐ vegetation lines/changes in vegetation types.
☐ tidal gauges
☐ other (list):

(iii) Chemical Characteristics:

Characterize tributary (e.g., water color is clear, discolored, oily film; water quality; general watershed characteristics, etc.).
Explain: .
Identify specific pollutants, if known: .

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[6]A natural or man-made discontinuity in the OHWM does not necessarily sever jurisdiction (e.g., where the stream temporarily flows underground, or where the OHWM has been removed by development or agricultural practices). Where there is a break in the OHWM that is unrelated to the waterbody's flow regime (e.g., flow over a rock outcrop or through a culvert), the agencies will look for indicators of flow above and below the break.
[7]Ibid

(iv) **Biological Characteristics. Channel supports (check all that apply):**

- ☐ Riparian corridor. Characteristics (type, average width):
- ☐ Wetland fringe. Characteristics:
- ☐ Habitat for:
  - ☐ Federally Listed species. Explain findings:
  - ☐ Fish/spawn areas. Explain findings:
  - ☐ Other environmentally-sensitive species. Explain findings:
  - ☐ Aquatic/wildlife diversity. Explain findings:

2. **Characteristics of wetlands adjacent to non-TNW that flow directly or indirectly into TNW**

(i) **Physical Characteristics:**

(a) General Wetland Characteristics:

Properties:

Wetland size: acres

Wetland type. Explain:

Wetland quality. Explain:

Project wetlands cross or serve as state boundaries. Explain:

(b) General Flow Relationship with Non-TNW:

Flow is: **Pick List**. Explain:

Surface flow is: **Pick List**

Characteristics:

Subsurface flow: **Pick List**. Explain findings:

- ☐ Dye (or other) test performed:

(c) Wetland Adjacency Determination with Non-TNW:

- ☐ Directly abutting
- ☐ Not directly abutting
  - ☐ Discrete wetland hydrologic connection. Explain:
  - ☐ Ecological connection. Explain:
  - ☐ Separated by berm/barrier. Explain:

(d) Proximity (Relationship) to TNW

Project wetlands are **Pick List** river miles from TNW.

Project waters are **Pick List** aerial (straight) miles from TNW.

Flow is from: **Pick List.**

Estimate approximate location of wetland as within the **Pick List** floodplain.

(ii) **Chemical Characteristics:**

Characterize wetland system (e.g., water color is clear, brown, oil film on surface; water quality; general watershed characteristics; etc.). Explain:

Identify specific pollutants, if known:

(iii) **Biological Characteristics. Wetland supports (check all that apply):**

- ☐ Riparian buffer. Characteristics (type, average width):
- ☐ Vegetation type/percent cover. Explain:
- ☐ Habitat for:
  - ☐ Federally Listed species. Explain findings:
  - ☐ Fish/spawn areas. Explain findings:
  - ☐ Other environmentally-sensitive species. Explain findings.
  - ☐ Aquatic/wildlife diversity. Explain findings:

3. **Characteristics of all wetlands adjacent to the tributary (if any)**

All wetlands being considered in the cumulative analysis: **Pick List**

Approximately ( ) acres in total are being considered in the cumulative analysis.

For each wetland, specify the following:

Directly abuts? (Y/N)	Size (in acres)	Directly abuts? (Y/N)	Size (in acres)

Summarize overall biological, chemical and physical functions being performed:

C. SIGNIFICANT NEXUS DETERMINATION

A significant nexus analysis will assess the flow characteristics and functions of the tributary itself and the functions performed by any wetlands adjacent to the tributary to determine if they significantly affect the chemical, physical, and biological integrity of a TNW. **For each of the following situations, a significant nexus exists if the tributary, in combination with all of its adjacent wetlands, has more than a speculative or insubstantial effect on the chemical, physical and/or biological integrity of a TNW. Considerations when evaluating significant nexus include, but are not limited to the volume, duration, and frequency of the flow of water in the tributary and its proximity to a TNW, and the functions performed by the tributary and all its adjacent wetlands. It is not appropriate to determine significant nexus based solely on any specific threshold of distance (e.g. between a tributary and its adjacent wetland or between a tributary and the TNW). Similarly, the fact an adjacent wetland lies within or outside of a floodplain is not solely determinative of significant nexus.**

Draw connections between the features documented and the effects on the TNW, as identified in the *Rapanos* Guidance and discussed in the Instructional Guidebook. Factors to consider include, for example:

- Does the tributary, in combination with its adjacent wetlands (if any), have the capacity to carry pollutants or flood waters to TNWs, or to reduce the amount of pollutants or flood waters reaching a TNW?
- Does the tributary, in combination with its adjacent wetlands (if any), provide habitat and lifecycle support functions for fish and other species, such as feeding, nesting, spawning, or rearing young for species that are present in the TNW?
- Does the tributary, in combination with its adjacent wetlands (if any), have the capacity to transfer nutrients and organic carbon that support downstream foodwebs?
- Does the tributary, in combination with its adjacent wetlands (if any), have other relationships to the physical, chemical, or biological integrity of the TNW?

Note: the above list of considerations is not inclusive and other functions observed or known to occur should be documented below:

1. **Significant nexus findings for non-RPW that has no adjacent wetlands and flows directly or indirectly into TNWs.** Explain findings of presence or absence of significant nexus below, based on the tributary itself, then go to Section III.D:

2. **Significant nexus findings for non-RPW and its adjacent wetlands, where the non-RPW flows directly or indirectly into TNWs.** Explain findings of presence or absence of significant nexus below, based on the tributary in combination with all of its adjacent wetlands, then go to Section III.D:

3. **Significant nexus findings for wetlands adjacent to an RPW but that do not directly abut the RPW.** Explain findings of presence or absence of significant nexus below, based on the tributary in combination with all of its adjacent wetlands, then go to Section III.D:

D. DETERMINATIONS OF JURISDICTIONAL FINDINGS. THE SUBJECT WATERS/WETLANDS ARE (CHECK ALL THAT APPLY):

1. **TNWs and Adjacent Wetlands.** Check all that apply and provide size estimates in review area:
   - ☐ TNWs: linear feet width (ft). Or, acres.
   - ☐ Wetlands adjacent to TNWs: acres.

2. **RPWs that flow directly or indirectly into TNWs.**
   - ☐ Tributaries of TNWs where tributaries typically flow year-round are jurisdictional. Provide data and rationale indicating that tributary is perennial:
   - ☐ Tributaries of TNW where tributaries have continuous flow "seasonally" (e.g., typically three months each year) are jurisdictional. Data supporting this conclusion is provided at Section III.B. Provide rationale indicating that tributary flows seasonally:

Provide estimates for jurisdictional waters in the review area (check all that apply):
- ☐ Tributary waters: linear feet width (ft).
- ☐ Other non-wetland waters: acres.
  Identify type(s) of waters:

3. **Non-RPWs[8] that flow directly or indirectly into TNWs.**
   ☐ Waterbody that is not a TNW or an RPW, but flows directly or indirectly into a TNW, and it has a significant nexus with a TNW is jurisdictional. Data supporting this conclusion is provided at Section III.C.

   Provide estimates for jurisdictional waters within the review area (check all that apply):
   - ☐ Tributary waters: linear feet width (ft).
   - ☐ Other non-wetland waters: acres.
     Identify type(s) of waters:

4. **Wetlands directly abutting an RPW that flow directly or indirectly into TNWs.**
   ☐ Wetlands directly abut RPW and thus are jurisdictional as adjacent wetlands.
   - ☐ Wetlands directly abutting an RPW where tributaries typically flow year-round. Provide data and rationale indicating that tributary is perennial in Section III.D.2, above. Provide rationale indicating that wetland is directly abutting an RPW:
   - ☐ Wetlands directly abutting an RPW where tributaries typically flow "seasonally." Provide data indicating that tributary is seasonal in Section III.B and rationale in Section III.D.2, above. Provide rationale indicating that wetland is directly abutting an RPW:

   Provide acreage estimates for jurisdictional wetlands in the review area: acres.

5. **Wetlands adjacent to but not directly abutting an RPW that flow directly or indirectly into TNWs.**
   ☐ Wetlands that do not directly abut an RPW, but when considered in combination with the tributary to which they are adjacent and with similarly situated adjacent wetlands, have a significant nexus with a TNW are jurisdictional. Data supporting this conclusion is provided at Section III.C.

   Provide acreage estimates for jurisdictional wetlands in the review area: acres.

6. **Wetlands adjacent to non-RPWs that flow directly or indirectly into TNWs.**
   ☐ Wetlands adjacent to such waters, and have when considered in combination with the tributary to which they are adjacent and with similarly situated adjacent wetlands, have a significant nexus with a TNW are jurisdictional. Data supporting this conclusion is provided at Section III.C.

   Provide estimates for jurisdictional wetlands in the review area: acres.

7. **Impoundments of jurisdictional waters.**[9]
   As a general rule, the impoundment of a jurisdictional tributary remains jurisdictional.
   - ☐ Demonstrate that impoundment was created from "waters of the U.S.," or
   - ☐ Demonstrate that water meets the criteria for one of the categories presented above (1-6), or
   - ☐ Demonstrate that water is isolated with a nexus to commerce (see E below).

E. ISOLATED [INTERSTATE OR INTRA-STATE] WATERS, INCLUDING ISOLATED WETLANDS, THE USE, DEGRADATION OR DESTRUCTION OF WHICH COULD AFFECT INTERSTATE COMMERCE, INCLUDING ANY SUCH WATERS (CHECK ALL THAT APPLY):[10]
- ☐ which are or could be used by interstate or foreign travelers for recreational or other purposes.
- ☐ from which fish or shellfish are or could be taken and sold in interstate or foreign commerce.
- ☐ which are or could be used for industrial purposes by industries in interstate commerce.
- ☐ Interstate isolated waters. Explain:
- ☐ Other factors. Explain:

Identify water body and summarize rationale supporting determination:

---

[8] See Footnote # 3.
[9] To complete the analysis refer to the key in Section III.D.6 of the Instructional Guidebook.
[10] **Prior to asserting or declining CWA jurisdiction based solely on this category, Corps Districts will elevate the action to Corps and EPA HQ for review consistent with the process described in the Corps/EPA *Memorandum Regarding CWA Act Jurisdiction Following Rapanos.***

Provide estimates for jurisdictional waters in the review area (check all that apply):

- ☐ Tributary waters: linear ft width (ft).
- ☐ Other non-wetland waters: acres.
  - Identify type(s) of waters:
- ☐ Wetlands: acres.

F. NON-JURISDICTIONAL WATERS, INCLUDING WETLANDS (CHECK ALL THAT APPLY):

- ☐ If potential wetlands were assessed within the review area, these areas did not meet the criteria in the 1987 Corps of Engineers Wetland Delineation Manual and/or appropriate Regional Supplements.
- ☐ Review area included isolated waters with no substantial nexus to interstate (or foreign) commerce.
  - ☐ Prior to the Jan 2001 Supreme Court decision in "*SWANCC*," the review area would have been regulated based solely on the "Migratory Bird Rule" (MBR).
- ☐ Waters do not meet the "Significant Nexus" standard, where such a finding is required for jurisdiction. Explain:
- ☒ Other (explain, if not covered above): **Corps of Engineers personnel evaluated the site, including aerial photography, and found no wetland areas or other waters of the United States within the project area. Therefore, the proposed work does not require a Section 404 Department of the Army permit.**

Provide acreage estimates for non-jurisdictional waters in the review area, where the sole potential basis of jurisdiction is the MBR factors (i.e., presence of migratory birds, presence of endangered species, use of water for irrigated agriculture), using best professional judgment (check all that apply):

- ☐ Non-wetland waters (i.e., rivers, streams): linear feet width (ft).
- ☐ Lakes/ponds: acres.
- ☐ Other non-wetland waters: acres. List type of aquatic resource:
- ☐ Wetlands: acres.

Provide acreage estimates for non-jurisdictional waters in the review area that do not meet the "Significant Nexus" standard, where such a finding is required for jurisdiction (check all that apply):

- ☐ Non-wetland waters (i.e., rivers, streams): linear feet width (ft).
- ☐ Lakes/ponds: acres.
- ☐ Other non-wetland waters: acres. List type of aquatic resource:
- ☐ Wetlands: acres.

SECTION IV: DATA SOURCES.

A. SUPPORTING DATA. Data reviewed for JD (check all that apply - checked items shall be included in case file and, where checked and requested, appropriately reference sources below):

- ☒ Maps, plans, plots or plat submitted by or on behalf of the applicant/consultant: Mr. Tom Huetter, Southwestern Energy Exploration Company, PO Box 789, Conway, Arkansas 72033.
- ☐ Data sheets prepared/submitted by or on behalf of the applicant/consultant.
  - ☐ Office concurs with data sheets/delineation report.
  - ☐ Office does not concur with data sheets/delineation report.
- ☐ Data sheets prepared by the Corps.
- ☐ Corps navigable waters' study:
- ☒ U.S. Geological Survey Hydrologic Atlas:
  - ☐ USGS NHD data.
  - ☒ USGS 8 and 12 digit HUC maps.
- ☒ U.S. Geological Survey map(s). Cite scale & quad name: 1:24K - Scotland.
- ☐ USDA Natural Resources Conservation Service Soil Survey. Citation:
- ☐ National wetlands inventory map(s). Cite name:
- ☐ State/Local wetland inventory map(s):
- ☐ FEMA/FIRM maps:
- ☐ 100-year Floodplain Elevation is: (National Geodetic Vertical Datum of 1929)
- ☒ Photographs: ☒ Aerial (Name & Date): ArcView and Google Earth historical aerial photography. or ☒ Other (Name & Date): Photographs provided by the applicant within the submittal.
- ☐ Previous determination(s). File no. and date of response letter:
- ☐ Applicable/supporting case law:
- ☐ Applicable/supporting scientific literature:
- ☐ Other information (please specify):

B. ADDITIONAL COMMENTS TO SUPPORT JD: Corps of Engineers personnel evaluated the site, including aerial photography, and found no wetland areas or other waters of the United States within the project area. Therefore, the proposed work does not require a Section 404 Department of the Army permit.

Cynthia H Blansett 4-1-15

NOTIFICATION OF ADMINISTRATIVE APPEAL OPTIONS AND PROCESS AND REQUEST FOR APPEAL

Applicant: **Southwestern Energy Exploration Co.** File Number: **2013-00061**		Date:
Attached is:		See Section below
	INITIAL PROFFERED PERMIT (Standard Permit or Letter of permission)	A
	PROFFERED PERMIT (Standard Permit or Letter of permission)	B
	PERMIT DENIAL	C
✓	APPROVED JURISDICTIONAL DETERMINATION	D
	PRELIMINARY JURISDICTIONAL DETERMINATION	E

SECTION I - The following identifies your rights and options regarding an administrative appeal of the above decision. Additional information may be found at http://www. or Corps regulations at 33 CFR Part 331.

A: INITIAL PROFFERED PERMIT: You may accept or object to the permit.

- ACCEPT: If you received a Standard Permit, you may sign the permit document and return it to the district engineer for final authorization. If you received a Letter of Permission (LOP), you may accept the LOP and your work is authorized. Your signature on the Standard Permit or acceptance of the LOP means that you accept the permit in its entirety, and waive all rights to appeal the permit, including its terms and conditions, and approved jurisdictional determinations associated with the permit.
- OBJECT: If you object to the permit (Standard or LOP) because of certain terms and conditions therein, you may request that the permit be modified accordingly. You must complete Section II of this form and return the form to the district engineer. Your objections must be received by the district engineer within 60 days of the date of this notice, or you will forfeit your right to appeal the permit in the future. Upon receipt of your letter, the district engineer will evaluate your objections and may: (a) modify the permit to address all of your concerns, (b) modify the permit to address some of your objections, or (c) not modify the permit having determined that the permit should be issued as previously written. After evaluating your objections, the district engineer will send you a proffered permit for your reconsideration, as indicated in Section B below.

B: PROFFERED PERMIT: You may accept or appeal the permit.

- ACCEPT: If you received a Standard Permit, you may sign the permit document and return it to the district engineer for final authorization. If you received a Letter of Permission (LOP), you may accept the LOP and your work is authorized. Your signature on the Standard Permit or acceptance of the LOP means that you accept the permit in its entirety, and waive all rights to appeal the permit, including its terms and conditions, and approved jurisdictional determinations associated with the permit.
- APPEAL: If you choose to decline the proffered permit (Standard or LOP) because of certain terms and conditions therein, you may appeal the declined permit under the Corps of Engineers Administrative Appeal Process by completing Section II of this form and sending the form to the division engineer. This form must be received by the division engineer within 60 days of the date of this notice.

C: PERMIT DENIAL: You may appeal the denial of a permit under the Corps of Engineers Administrative Appeal Process by completing Section II of this form and sending the form to the division engineer. This form must be received by the division engineer within 60 days of the date of this notice.

D: APPROVED JURISDICTIONAL DETERMINATION: You may accept or appeal the approved JD or provide new information.

- ACCEPT: You do not need to notify the Corps to accept an approved JD. Failure to notify the Corps within 60 days of the date of this notice, means that you accept the approved JD in its entirety, and waive all rights to appeal the approved JD.
- APPEAL: If you disagree with the approved JD, you may appeal the approved JD under the Corps of Engineers Administrative Appeal Process by completing Section II of this form and sending the form to the division engineer. This form must be received by the division engineer within 60 days of the date of this notice.

E: PRELIMINARY JURISDICTIONAL DETERMINATION: You do not need to respond to the Corps regarding the preliminary JD. The Preliminary JD is not appealable. If you wish, you may request an approved JD (which may be appealed), by contacting the Corps district for further instruction. Also you may provide new information for further consideration by the Corps to reevaluate the JD.

SECTION II - REQUEST FOR APPEAL or OBJECTIONS TO AN INITIAL PROFFERED PERMIT

REASONS FOR APPEAL OR OBJECTIONS: (Describe your reasons for appealing the decision or your objections to an initial proffered permit in clear concise statements. You may attach additional information to this form to clarify where your reasons or objections are addressed in the administrative record.)

ADDITIONAL INFORMATION: The appeal is limited to a review of the administrative record, the Corps memorandum for the record of the appeal conference or meeting, and any supplemental information that the review officer has determined is needed to clarify the administrative record. Neither the appellant nor the Corps may add new information or analyses to the record. However, you may provide additional information to clarify the location of information that is already in the administrative record.

POINT OF CONTACT FOR QUESTIONS OR INFORMATION:

If you have questions regarding this decision and or the appeal process you may contact:

Cynthia W. Blansett
(501) 324-5295

If you only have questions regarding the appeal process you may also contact

Mr. Elliott Carnes
Administrative Appeals Review Officer (CESWD-PD-O)
U.S. Army Corps of Engineers
1100 Commerce Street, Suite 831
Dallas, Texas 75242-1317
(214) 767-2423

RIGHT OF ENTRY: Your signature below grants the right of entry to Corps of Engineers personnel, and any government consultants, to conduct investigations of the project site during the course of the appeal process. You will be provided a 15 day notice of any site investigation, and will have the opportunity to participate in all site investigations.

Signature of appellant or agent.	Date:	Telephone number:

United States Department of the Interior

FISH AND WILDLIFE SERVICE
110 S. Amity Road, Suite 300
Conway, Arkansas 72032
Tel.: 501/513-4470 Fax: 501/513-4480

IN REPLY REFER TO

February 7, 2013

Mr. Brian Kennedy
Bureau of Land Management
411 Briarwood Drive, Suite 404
Jackson, MS 39206

Dear Mr. Kennedy,

The U.S. Fish and Wildlife Service (Service) received the biological assessments for the two well pad sites, Reed 10-14 7-5H8 and Baker 10-14;3,4,5, both near the city of Choctaw, Van Buren County, AR. Our comments are submitted in accordance with the Endangered Species Act (87 stat. 884, as amended: 16 U.S.C. 1531 et seq.; ESA).

The Service concurs with your determination that the proposed installation of the well pad sites "*may affect, not likely to adversely affect*" the yellowcheek darter (*Etheostoma moorei*), gray bat (*Myotis grisescens*), speckled pocketbook (*Lampsilis streckeri*), and the federally protected Bald Eagle *(Haliaeetus leucocephalus*). While our records do not indicate any Bald Eagle nests in the project area, Bald Eagle guidelines should be followed in accordance with the Bald and Golden Eagle Protection Act (16 U.S.C. 668-668d).

We appreciate your cooperation and interest in protecting endangered species. If you have any questions or comments, please contact Erin Leone at 501-513-4472 or Erin_Leone@fws.gov.

Sincerely,

Melvin Tobin
Deputy Field Supervisor

THE DEPARTMENT OF ARKANSAS
HERITAGE

Mike Beebe
Governor

Martha Miller
Director

Arkansas Arts Council
•
Arkansas Historic Preservation Program
•
Delta Cultural Center
•
Mosaic Templars Cultural Center
•
Old State House Museum
•
Historic Arkansas Museum

Arkansas Natural Heritage Commission

323 Center Street, Suite 1500
Little Rock, AR 72201

(501) 324-9619
fax: (501) 324-9618
tdd: 711

e-mail:
arkansas@naturalheritage.com
website:
www.naturalheritage.com

An Equal Opportunity Employer

Date: February 22, 2013
Subject: Elements of Special Concern
Southwestern Energy Co., Proposed Gas Well Sites
Baker 10-14: 3,4, 5; Reed 10-14 7-5H8
ANHC No.: F-BLM.-13-001

Ms. Alison McCartney
Bureau of Land Management
411 Briarwood Drive, Suite 404
Jackson, MS 39206

Dear Ms. McCartney:

Staff members of the Arkansas Natural Heritage Commission have reviewed our files for records indicating the occurrence of rare plants and animals, outstanding natural communities, natural or scenic rivers, or other elements of special concern within or near the following sites:

Project Name	County	Quad. Name	Location
Baker 10-14 3, 4, 5	Van Buren	Clinton 7.5'	T10N/R14W/S10
Reed 10-14 7-5H8	Van Buren	Scotland 7.5'	T10N/R14W/S05

We find no records at present time.

It should be noted that in each of the Biological Assessments for these projects the following statement is made about speckled pocketbook (*Lampsilis streckeri*):

> "Historically, populations occurred in Archey, Middle, and South Forks of the Little Red River, Van Buren County, Arkansas. Within the Little Red River drainage, the only known remaining population is in the Middle Fork. In the Middle Fork, the known range extends from the influence of Greers Ferry Reservoir near Shirley, Arkansas, upstream to the confluence of Meadow Creek."

This statement is not currently accurate. Speckled pocketbook has been found in recent years from the following streams in the Little Red River drainage: Archey, Beech, Middle, South, and Turkey Forks of the Little Red River, and Big Creek. It is also of note that the Middle Fork of the Little Red River has recently been designated by the U.S. Fish and Wildlife Service as Critical Habitat for yellowcheek darter (*Etheostoma moorei*). Issues of water quality and quantity could be an issue in this watershed.

A Van Buren County Element list is enclosed for your reference. Represented on this list are elements for which we have records in our database. The list has been annotated to indicate those elements known to occur within a one and a five mile radius of each of the project sites. A legend is enclosed to help you interpret the codes used on this list.

Please keep in mind that the project area may contain important natural features of which we are unaware. Staff members of the Arkansas Natural Heritage Commission have not conducted a field survey of the study site. Our review is based on data available to the program at the time of the request. It should not be regarded as a final statement on the elements or areas under consideration. Because our files are updated constantly, you may want to check with us again at a later time.

Thank you for consulting us. It has been a pleasure to work with you on this study.

Sincerely,

Cindy Osborne

Cindy Osborne
Data Manager/Environmental Review Coordinator

Enclosures: Legend
Van Buren County Element List (annotated)

APPENDIX D

References

References Cited:

United States Department of Agriculture, Natural Resource Conservation Service.
http://websoilsurvey.nrcs.usda.gov/app/HomePage.htm

U.S. Fish and Wildlife Service (USFWS), Southeast Region.
http://www.fws.gov/southeast/

U.S. Fish and Wildlife Service (USFWS). 2002. Birds of Conservation Concern.

Hamel, P. 1992. The Land Manager's Guide to the Birds of the South.

Peterson, R. 1980. Birds of Eastern and Central North America.

Arkansas Department of Environmental Quality (ADEQ).
http://www.adeq.state.ar.us//

Arkansas Historic Preservation Program, State Historic Preservation Office.
http://www.arkansaspreservation.com/

FINDING OF NO SIGNIFICANT IMPACT/DECISION RECORD

FINDING OF NO SIGNIFICANT IMPACT

Based on the analysis of potential environmental impacts contained in the attached environmental assessment (EA), I have determined that the proposed action, with the mitigation measures and stipulations described under "Surface Use Conditions of Approval", will not have any significant impacts on the human environment, and an environmental impact statement (EIS) is not required.

DECISION RECORD

It is my decision to authorize the Reed 10-14 #7-5H8 APD and the Reed 10-14 #8-5H8 APD submitted by SEECO, Inc. in Van Buren County, Arkansas to flow natural gas produced from BLM's federal oil and gas lease: ARES-56356. Each APD was reviewed and accepted under NEPA guidelines and policy. The applicant's surface protection procedures, set forth in the proposed action, are included in the application and need not be formulated into stipulations. Measures identified for the proposed action in the environmental impact section of the EA have been formulated into "Surface Use Conditions of Approval" (SUCOA). SEECO, Inc. will adhere and follow said SUCOAs for both proposed APDs as part of their permit's approval. This decision incorporates by reference those measures and conditions addressed in the EA for approval of the two APDs submitted to BLM by SEECO, Inc.

RATIONALE FOR DECISION

The decision to allow the proposed action does not result in any undue or unnecessary environmental degradation and is in conformance with applicable plans.

Authorized Officer: Ernest Dawson Date: 5/13/2013